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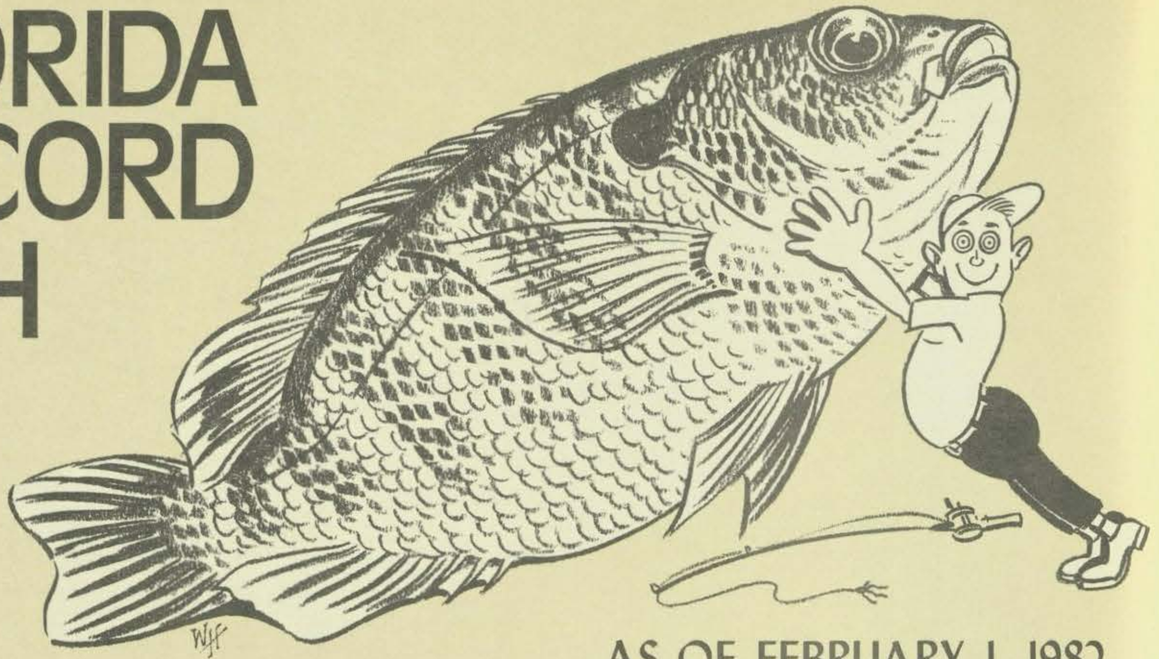
FLORIDA WILDLIFE

March-April 1982

SHELVE IN FLORIDA ROOM

FLORIDA RECORD FISH



AS OF FEBRUARY 1, 1982

SPECIES	WEIGHT	WHERE CAUGHT	ANGLER	DATE
Largemouth Bass	19 lbs	Lake Tarpon,Pinellas Co.	W.A.Witt	June 26, 1961
Bluegill	2 lbs 12 oz	Private pond,Hillsborough Co.	Don V.Flannery	April 7, 1978
Bowfin(mudfish)	17 lbs 3 oz.	Lake Tohopekaliga, Osceola Co.	Wilbur Glover	1971
Carp	40 lbs 9 oz	Apalachicola River, Gadsden Co.	Bernard L. Rowan	May 24, 1981
Chain Pickerel	8 lbs	Lake Talquin, Gadsden Co.	Jimmy James	July 5, 1971
Channel Catfish	43 lbs	Haines Creek, Lake Co.	Mike Davis	April 15, 1980
Crappie (speckled perch)	3 lbs 12 oz	Newnans Lake, Alachua Co.	John Gilvray	December 29, 1964
Redbreast	1 lb 8½ oz.	Suwannee River,Gilchrist Co.	Tommy D.Cason Jr.	April 30, 1977
Shellcracker	4 lbs ½ oz	Merritts Mill Pond,Jackson Co.	Harry Powell	March 27, 1981
Striped Bass	38 lbs 9 oz	Lake Seminole, Gadsden Co.	Justin McAlpin	November 15, 1979
Sunshine Bass	14 lbs 1 oz	Apalachicola River, Gadsden Co.	Walter Gray	November 27,1979
Suwannee Bass	3 lbs 8 oz.	Ochlockonee River,Gadsden Co.	J.G.Cannon	May 10, 1974
Warmouth	1 lb 9 oz	Roberts Pond, Eglin AFB	Bill Rasmussen Jr.	May 7, 1981
White Bass	4 lbs 8 oz	Apalachicola River,Gadsden Co.	John W. Padgett	March 22,1976
Redeye Bass	6 lbs 6 oz	Apalachicola River below Woodruff Dam	Buford C. White Jr.	March 14, 1981
Long-nosed Gar	32 .3 lbs	Lake Panasoffkee,Sumter Co.	Evan D. Merritt	July 31, 1981
Flier	1.0 lbs	Private Pond, Leon Co.	Butch Taylor	April 1981

CAUGHT A RECORD FISH?

Contact your regional education officer or fisheries biologist at the address listed on page 48 or contact the Office of Informational Services in Tallahassee 904/488-5564.

OPEN - NO CURRENT RECORD RECOGNIZED

Minimum weight for record listing

American Shad	3 pounds	White Catfish	3 pounds
Redfin Pickerel	12 ounces	Florida Gar	10 pounds
Spotted Sunfish (Stumpknocker)	12 ounces	Alligator Gar	70 pounds

Volume 35, No. 6
March-April
1982

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Dedicated to the appreciation and enjoyment of our wildlife heritage, and to a fuller understanding of efforts directed toward the protection, restoration, enhancement and wise use of our natural resources.

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THE COVERS

Success in the form of a black crappie crowns the foraging efforts of a bald eagle on this issue's front cover. Done in an unusual scratchboard technique he developed, Gregg Murray of Tampa also produced the Louisiana heron on the back cover. A feature on this young Florida artist, along with more examples of his work, is planned for a forthcoming issue of the magazine.

TURKEY TYRO

To be classified as a real turkey hunter, it's been said you have to goof up at least 100 times—I have only 95 more to go.

At 45 minutes before daylight, I was slipping along a cow path through the cypress swamp, eyes searching for the three turkeys roosted the previous evening. Each time I stumbled over a cypress knee, my heart skipped a beat, half expecting to hear alarmed turkeys flying off the roost. This was my last chance to redeem myself after three days of mistakes and I could not shake the feeling that something would go amiss. I thought of Tim Regan's parting words that morning before separating in the woods, "Frank, we've messed up so much, we've got to do something right today—even if it's wrong!" And that was exactly my plan. I intended to roll a gobbling turkey off a cypress limb before there was any chance of a *faux pas*.

Most hunters would not consider this procedure a sporting method during spring gobbler season but I had had three days of sportsmanship and now I wanted to bag a turkey and I wasn't particular about how—as long as it was legal.

Jim Hull tapped me on the shoulder and whispered "I see a bird," pointing to a roosted turkey 50 yards away. I followed him 10 yards closer to the bird. He took my shotgun and handed me his 12-gauge three-inch magnum with a 32-inch barrel and said, "with this gun here, we're in range." Hull raised his field glasses but there was not enough light to sex the bird. He would tell me if he spotted a beard and when it was officially legal shooting time. As I looked down the long barrel at the turkey and waited, I recalled the events that led up to the last day of this special quota turkey hunt on Fisheating Creek Wildlife Management Area.

Although I grew up hunting in prime turkey country in the Tombigbee River bottomland of Alabama, I had never been introduced to turkey hunting. My dad is an avid quail hunter and my early outdoor experiences revolved around English pointers and sedge fields.

I became acquainted with turkey hunting after meeting Neal Eichholz, a fellow Commission biologist. Eichholz set me up near a flock of roosted turkeys on the J.W. Corbett WMA near West Palm Beach. I was placed on the edge of a clearing where the turkeys were supposed to fly down, while he circled to cover the back of the cypress strand just in case the birds were not aware of what they were supposed to do. Shortly after daylight, the birds began putting loudly (putting is a noise that alarmed turkeys make), then I heard Eichholz shoot. As turkeys flew in all directions, I became aware of other hunters nearby. Eichholz soon arrived carrying a 12-pound jake (a young male turkey) and explained the putting meant the other hunters had spoiled our well-made plan. The hunt was over, so he shot the young gobbler knowing it would be the only opportunity we'd have that morning.

The excitement of that first experience convinced me that I wanted to be a turkey hunter. Eichholz told me to acquire reading material on turkey hunting and recordings on calling the wild turkey. After reading the literature and listening to recordings of famous turkey hunters, I was dismayed at the contradictions.

However, I was delighted to be advised by my mentor that I had just reached a plateau that many beginners never realize.

"Now that you have discovered that experts have spent too much time writing articles, making records and turkey calls, and not enough time in the woods learning about turkeys, you are ready to go to the woods and begin your education," said Eichholz.

"Now for lesson number one: don't be concerned about the difference between the Alabama cackle, Florida cackle, tree yelps and lost calls for the wild turkey.

"One thing I'm sure of, there has never been a lost wild turkey unless it was one that biologist David Austin released from an airplane during a restocking program. The most common sound made by turkeys is the yelp and that's all you need to know to call a wild turkey."

Lesson Number Two: "Hunting turkeys is like chasing ladies, you have to go where there are a lot of them." So we were off to the Tallahassee area after turkeys. We met with Frank Smith, bureau chief of wildlife land management, to hunt the Joe Budd WMA. I spent the next two days stalking an old gobbler that had two hens in tow—that was goof number one.

Lesson Number Three: "Never let a hen get between you and the gobbler because then he has no reason to come to your call."

Lesson Number Four: "A predator never goes after something it can't get, and that smart old tom was out of your class," said Eichholz. "However, don't be dismayed because to be classified as a real turkey hunter, you have to goof up at least 100 times."

On this hunt, I received lesson number five on how to recognize turkey habitat and areas where birds would or would not travel. Turkeys prefer to walk through clear areas void of underbrush. The turkey's eyes are its greatest defense mechanism and clear areas provide for maximum visibility.

After waiting a year for the season to open, Regan, Eichholz and I met at Fisheating Creek for a spring hunt. Regan bagged a jake on the second day. On the third morning, I was set up at the base of a cypress tree with an old tom gobbling in the swamp 75 yards in front of me. Eichholz was 25 yards in back of me doing the calling.

The bird would not come closer, it appeared to be a stand off and a turkey calling contest between him and the old bird. I was caught in the middle with my adrenaline flowing when I realized Eichholz had quit yelping and gobbling, and I was hearing putting behind me. Since he rarely putts, I slowly turned my head and saw a turkey 20 feet away. No beard was visible so I left the bird in favor of an old gobbler who was still sounding off.

That was goof number two. I was politely advised that I let a jake go. That mistake haunted me until the following year when we met again at Fisheating Creek and were joined by Hull from Labelle, Johnny Pappy and Herbie Braddock, two

By Frank Morello

Leonard Lee Rue III

TURKEY TYRO

old-time Minorcans from St. Augustine. It was pleasant sharing the same hunt camp with Pappy and Braddock since they know more about turkey hunting than Segovia knows about the guitar. They are not heard of in turkey hunting circles because, while the so-called experts are entering turkey calling contests, they are out shooting turkeys.

The first morning I set up in a palmetto patch near a cypress stand. A few yelps from my Gaskin's cedar box produced replies from the cypress in front of me and from the hardwood behind me. I thought to myself, "12,000 acres of swamp and I build a blind between two hunters." I began calling loud and long to let them know I wasn't a wild turkey. To my surprise, the clearing between me and the swamp filled with turkeys. There stood seven birds within 20 feet of my blind, no beards were visible but, from the size and dark color, I was 99 percent sure they were young gobblers.

However, that one percent of doubt had me confused. Being a fisheries biologist, I could distinguish between a bluegill and a shellcracker at that distance, but my search image of turkeys was not fine tuned. Not being 100 percent sure, I reluctantly let them walk into the swamp. That was goof number three. Later examination of the tracks revealed they were all young gobblers. My nightmare had repeated itself.

After changing locations, I called up a group of four birds that would not deviate from their line of travel just outside of gun range. Pappy calls that "being sided" by the birds.

Lesson Number Six: "It's easier to call a turkey to you if you are sitting where it wants to go. That can take about 30 to 60 years of experience to learn," said Eichholz.

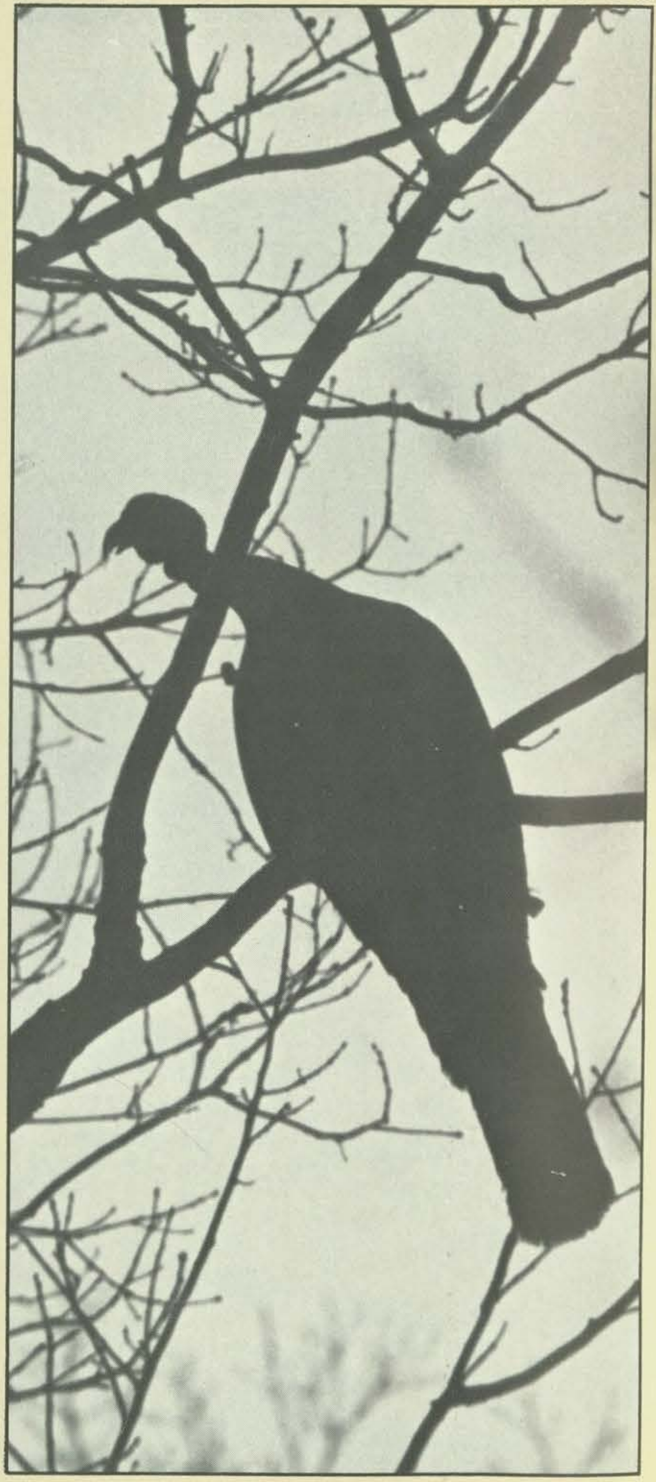
Regan's luck was running about like mine; he had shot at and missed two big gobblers that day. The following evening he roosted a flock of birds on the edge of the creek. We were in the swamp early the next morning, only to become confused about their exact location and spooked the roosted birds while en route to where we thought they were. Goof number four.

That evening in camp, Hull said he had roosted three birds and was pretty sure they were gobblers. Since he and Eichholz had each connected earlier with a tom, they decided to help me get one of the birds.

So here I was, looking down the long barrel and the tension mounting rapidly as I waited for the signal. Finally Hull lowered the field glasses and said "it's a young gobbler." It was 6:58 and legal shooting time was 7:04. The bird must have heard my heart pounding because at 7:02 it flew out of the tree. I stood in disbelief and the other two birds flew from nearby trees. We moved about 300 yards and began calling in desperation. I soon saw a large gobbler cautiously slipping towards me and total frustration was replaced by a ray of hope as I waited for it to come 15 yards closer.

It put a cypress tree between us and was never seen again. Neal's final words of wisdom were presented: "Many are called, but few are frozen." □

Leonard Lee Rue III



Raccoon

Leonard Lee Rue III

Nuisance Wildlife

By living in Florida's environment, you have chosen to live in a subtropical zone which hosts a wide variety of creatures which have been a natural part of the land since long before man arrived. If you live near woodlands or have trees in your yard, you can expect periodic visits from squirrels, raccoons and opossums. Throughout Florida, we can expect to hear breeding choruses of small frogs and toads following heavy rains. These and others are natural happenings most of us appreciate and enjoy.

Many species of Florida wildlife find their way into the lives of humans, thereby creating what some people deem nuisance situations. Quite often these conflicts are real and can be resolved; however, many people who are not familiar with Florida's local fauna often consider natural occurrences as more than an annoyance.

Florida's human population now exceeds nine million and, in that respect, it is one of the fastest growing states in the nation. Trends by developers to create housing areas with more natural surroundings have often laid the groundwork for potential "conflicts" between wildlife and landowners.

Of particular concern is the perception by some people that all wildlife is a nuisance. Oftentimes an unpleasant wildlife experience will cause such a view, particularly by those who have had few encounters with wildlife. When this happens, quite often that person will then view all

By Thomas M. Goodwin

Chief, Bureau of Wildlife Resources

wildlife as a problem without any recognition of its beneficial value in our natural environments.

In those cases where nuisance situations do arise between landowner and wildlife, there is usually something that can be done to resolve the conflict.

The Florida Game and Fresh Water Fish Commission is charged with the regulation and management of all wild animals and freshwater aquatic life within the state. Many types of feral or semi-domesticated animals which have been released by people often create nuisance situations, but these species are not regulated by or under the authority of the Commission. Such species include feral hogs (where they are not considered legal game animals), Muscovy ducks, domestic barnyard geese and white pekin ducks, feral dogs and cats.

Any species may become a nuisance but certain ones are more commonly involved. Raccoons and opossums cause problems by ransacking garbage, while armadillos and pocket gophers disturb lawns or flower beds. Bobcats, foxes, hawks and owls often disturb or destroy domestic fowl. Some species of birds create noise problems and potential health hazards by their gregarious roosting habits. Deer, black bears and hogs frequently cause economic losses to agricultural interests by destroying citrus seedlings, crops, beehives and pasture lands, respectively.

Florida's most visible and highly documented nuisance wildlife species is the alligator. A statewide program of nuisance alligator control is administered by the Commission. A brochure detailing the program is available from any regional office of the agency.

Specific Nuisance Situations and How to Deal With Them

Mammals

Raccoons, Skunks and Opossums—These animals quite often make pests of themselves by getting into garbage cans, eating pet food or getting into attics or beneath houses. Garbage cans should be provided with tight-fitting lids and garbage should not be stored outside in paper bags (this is an open invitation). Arrange your pet's feeding schedule so excess food will not be left outside in a dish at night. Do not hand feed wild animals or throw food into your yard unless you want visits from these animals (this again is an open invitation). These animals can be kept out of attics and from underneath houses by securing or repairing all possible entrances. If the owner can locate the point of entry, heavy gauge wire mesh or wood could be placed over it to prevent further entry. Live traps baited with sardines are recommended for garden-destroying raccoons. Raccoons which are caught should be taken to wooded areas several miles away and released. In certain cases, the construction of an electric fence will solve the problem.

Bobcats, Foxes and Weasels—These animals sometimes create disturbances around henhouses or chick brooder pens. A sentry dog in your yard is one of the best safeguards against these and other mammalian predators. Most wild animals will retreat hastily at the bark of a dog. A secure fence (including a top) will also reduce losses of domestic fowl to these animals.

Black Bear—Bears sometimes destroy beehives which are placed in bear habitat by unknowing apiarists. Generally, this can be resolved by constructing an electric fence around the hives or placing them on elevated platforms that bears cannot reach. Guidelines for properly constructing bear-proof electric fences and elevated platforms are available from the Commission.

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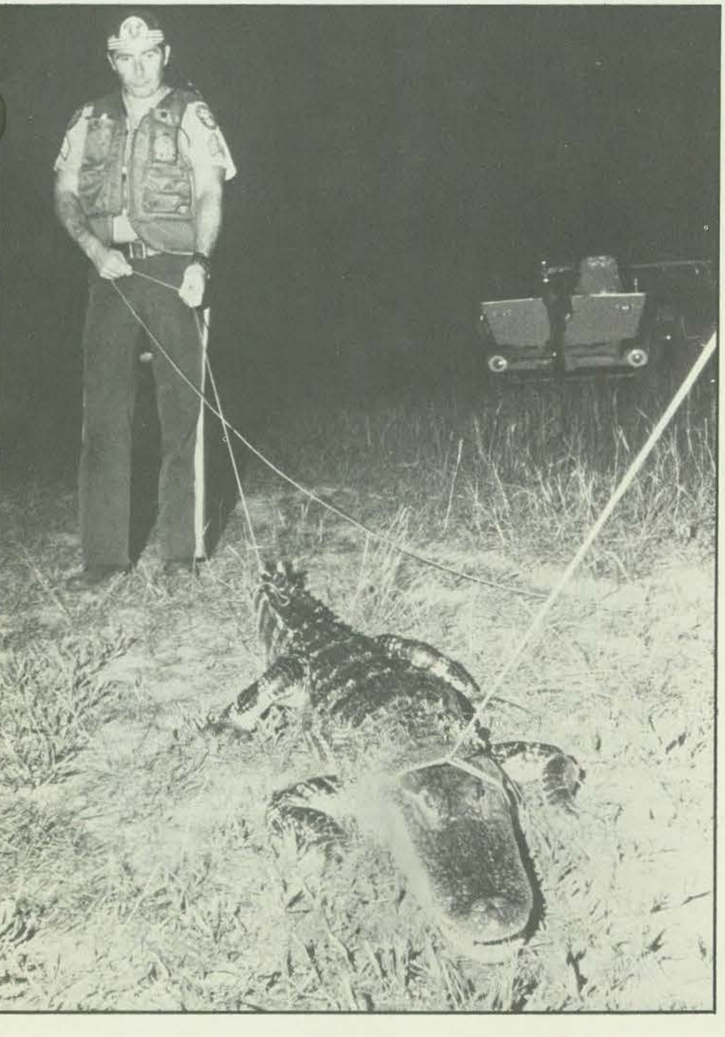
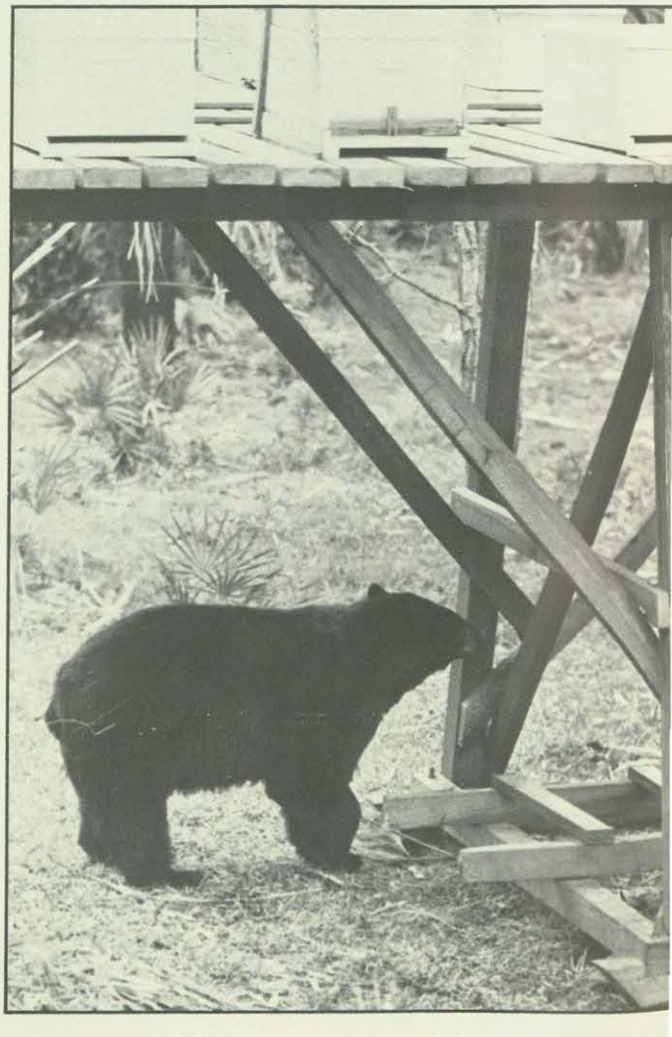


Jim Reed



Irene Vandermolen

Leonard Lee Rue III

White-tailed Deer—These animals quite often destroy considerable numbers of citrus seedlings and newly sprouted crops. The only sure solution is to construct a deer-proof fence to exclude them from these planted areas. There are some commercial deer repellents from various agricultural chemical companies, but these have to be reapplied following rains.

Citrus seedlings and other young trees may be protected by encircling them with polypropylene mesh. Contact your regional Commission office for details.

A harvest of the deer population, including deer of either sex, during the fall hunting season is one of the best long-range approaches to this type of problem (population control). In situations where deer are present in high numbers, the complainant is encouraged to allow hunting on the property. If appropriate, the Commission may issue antlerless deer permits to the landowner for use during the fall hunting season.

Squirrels—These animals find their way into attics and create disturbances by their overhead activities. They also annoy wild bird observers by dominating or upsetting birdfeeders. Squirrels normally enter a house through the eave vents along the edge of a roof. Once again, covering all openings to prevent entry is the best insurance. Many times pruning tree or shrub limbs will help discourage gray squirrels from gaining access. If the problem persists, they may be live trapped (peanut butter/oatmeal bait) and transported elsewhere—remember that squirrels and hardwood trees are a natural combination and you will seldom have one without the other. This acceptance is incumbent upon the landowner. If you live outside the city limits with no firearms restrictions, then hunting squirrels during the open season is the best long-range control method. Birdfeeders can be made squirrel-proof by several methods. One of the best is to place a birdfeeding platform on a smooth pipe away from the nearest tree (squirrels will jump several feet from a tree trunk to a feeder). They generally cannot climb up a smooth surfaced pipe. Several models of birdfeeders are available which are constructed to keep squirrels out. Hanging feeders can be protected with a metal collar or slanted metal/plastic top. Squirrels destroying crops, fruit trees or other property may be killed by shooting year-round.

Some species involved in the situation, from left to right: Handouts of food are frequently at the root of alligator problems. Bear and bee conflicts are receiving attention from the Commission. Armadillo's widespread excavations can cause headaches. Gray squirrels often create mischief about the home.

Armadillos—These animals frequently dig up flowerbeds or lawns. Armadillos are not a protected species and they may be dealt with as the landowner sees fit. They may be caught in live traps (rotten cabbage or fruit seems to be a good bait) and released at remote sites. If local ordinances do not prohibit firearms, these animals may be controlled by shooting. Quite often, an armadillo can be captured with a long-handled dip net as they are fairly poor runners. The application of approved commercial insecticides to lawns and flowerbeds to eliminate the armadillo's major food supply (subterranean insects and grubs) may be a good, long-range method of control.

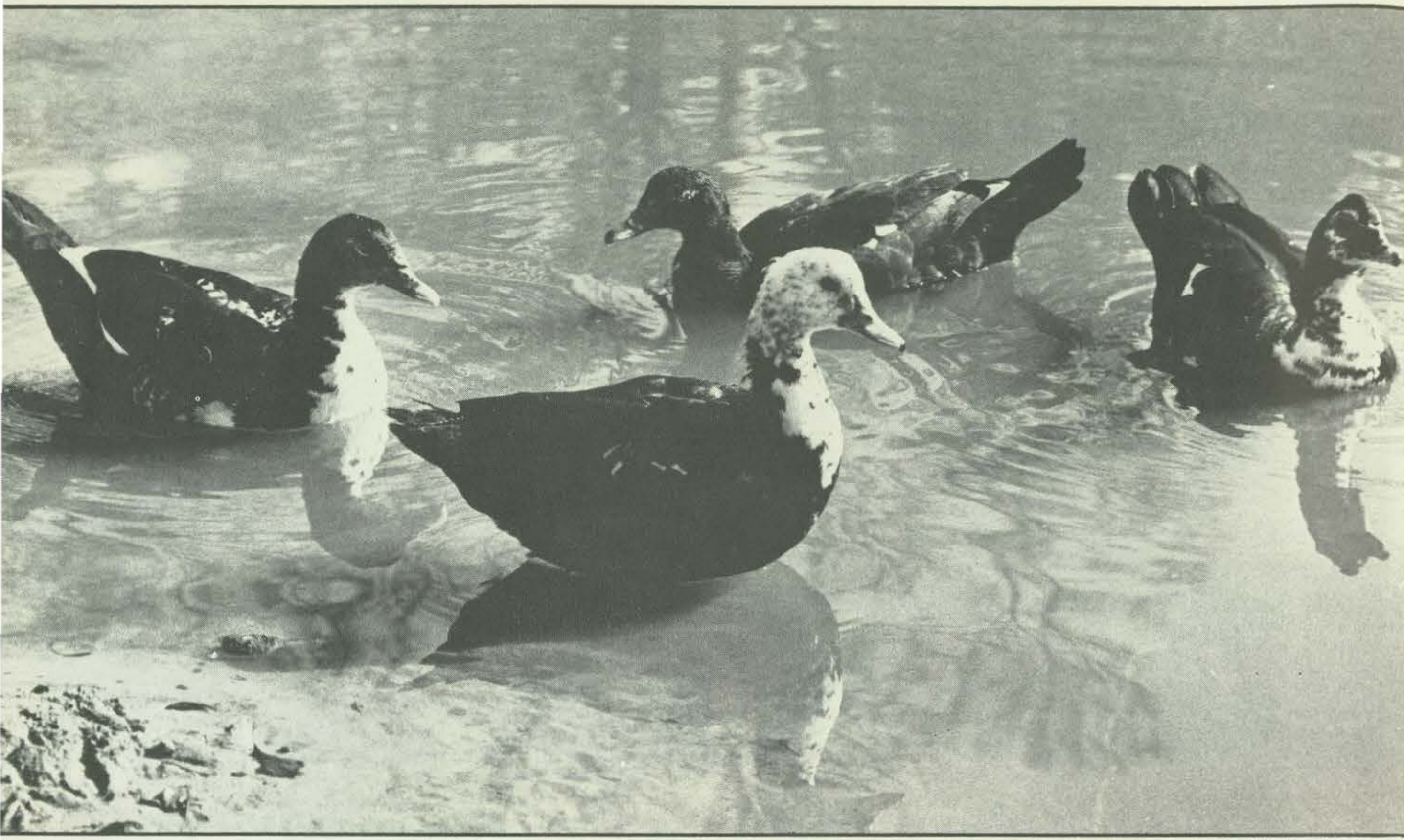
Rabbits—These small mammals frequently destroy vegetable gardens, shrubbery or young fruit trees. If the garden is small enough, the problem can be solved by constructing a low fence of chicken wire around it. If the bark on small trees or shrubbery is being eaten, a loop of chicken wire can be placed encircling the plant. This should protect the tree until it is mature enough that the bark is no longer palatable and the vegetation is out of reach. If the problem does not lend itself to fencing, a live trap may be set (sliced apples seem to be a good bait if they are placed in front of and inside the trap). Remember that rabbits can be controlled by shooting year-round so long as local ordinances do not prohibit the use of firearms. Commercial repellents are available for plants that are not going to be consumed by humans.

Beavers—These furbearers frequently cause extensive damage by flooding roadways, interfering with drainage of agricultural areas, destroying timber and other crops, and cutting fruit trees.

Steel leg-hold traps and Conibear-type traps are the best method of control, but permits must be obtained from the Commission's regional offices for steel traps. Once the animals have been removed, ensuring the dam will not be rebuilt, the dam may be destroyed, allowing the water to return to its original level and course. Beavers causing property damage may be taken by gun or live trap at any time of the year.

Birds

Domesticated Mallards, Muscovy and Pekin Ducks—These ducks are a special problem for many lakefront homeowners in Florida. Duck defecation has caused damage and unsanitary conditions in swimming pools, yards, and on patios, seawalls and docks; it has also



Wallace Hughes

degraded water quality in some small Florida ponds. Often a complainant wants to catch and destroy the animals. The Commission does not have jurisdiction over domesticated animals and, since these ducks are semi-domesticated stock, it is suggested that complainants try to find the duck owners. If they have done this and are reasonably sure that they do not belong to anyone, then they can handle the problem as they see fit. It should be remembered that ducks will stay on a lake or piece of property as long as they are being fed and control of the problem will not begin until everyone stops feeding them.

Pigeons—These birds often create nuisances by roosting in the eaves of buildings. The elimination or modification of roosting areas is the best method of control; however, there are commercially available pigeon repellents which can be applied under specific guidelines.

Hawks and Owls—These types of birds sometimes destroy domestic poultry. The best method of controlling this situation is to enclose domestic fowl in pens with wire or solid tops to prevent entry by these predators. It is illegal to shoot hawks or owls. If the problem persists, contact the nearest Commission office for assistance.

Woodpeckers—Woodpeckers are migratory nongame birds and are protected by the Federal Migratory Bird Treaty Act and the Commission. They are generally songless and substitute drumming with their bills on dead tree limbs or trunks to proclaim their territories and attract and signal to mates. Some woodpeckers may select metal flashing, gutters, downspouts or television antennas for their drumming. All this activity can be extremely irritating, especially in the early morning hours, but no physical damage generally results to such structures.

Actual damage occurs to buildings when woodpeckers peck holes in boards or shingle siding. Quite often, prompt action to frighten them away is the best defense.

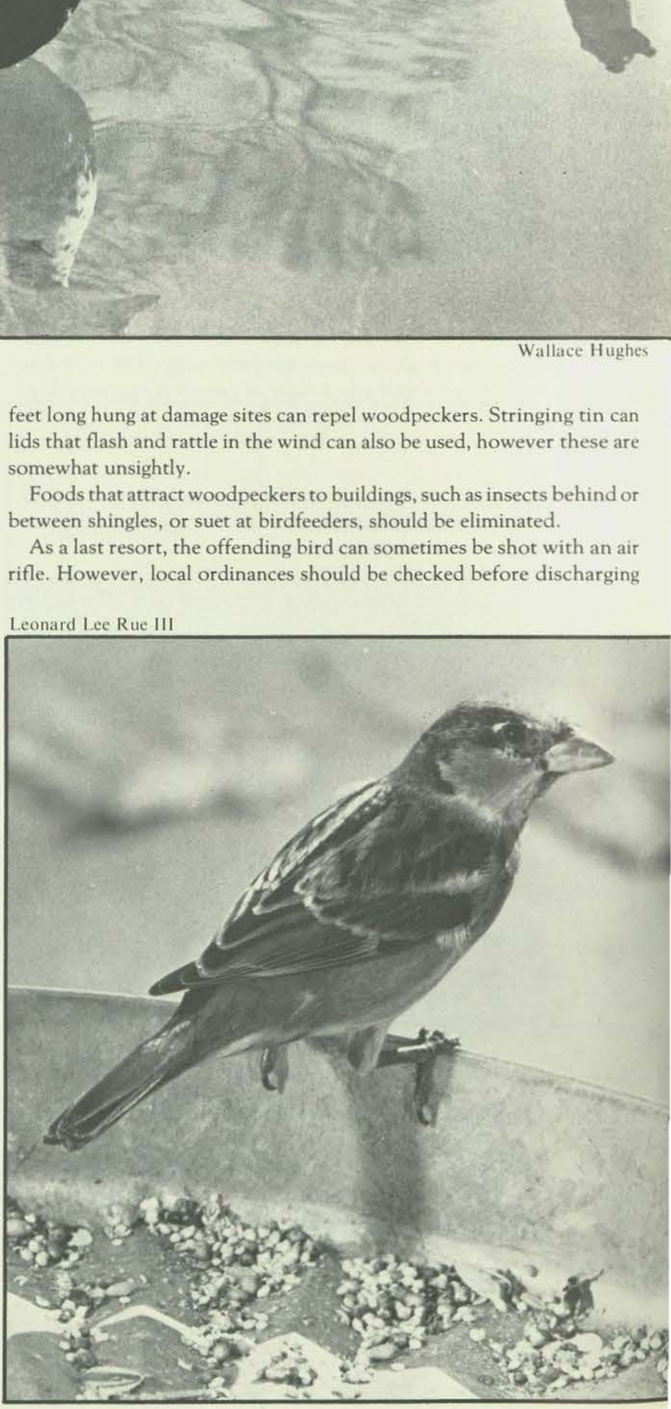
Strips of colored cloth or aluminum foil several inches wide and three feet long hung at damage sites can repel woodpeckers. Stringing tin can lids that flash and rattle in the wind can also be used, however these are somewhat unsightly.

Foods that attract woodpeckers to buildings, such as insects behind or between shingles, or suet at birdfeeders, should be eliminated.

As a last resort, the offending bird can sometimes be shot with an air rifle. However, local ordinances should be checked before discharging

Muscovy ducks, above, house sparrow, marine toad, and cottontail are among some of the creatures that have come into conflict with humans.

Leonard Lee Rue III



firearms and a permit will have to be secured from the law enforcement division of the U.S. Fish and Wildlife Service. A state permit will also have to be issued in conjunction with the federal permit.

Wading and Diving Birds—These birds present special problems for commercial fish farmers by eating fingerling stock. Wading birds may be controlled to some degree by placing electric fences along the banks of rearing ponds.

Certain diving birds such as anhingas and cormorants can also be discouraged by eliminating perching sites or by strategic placement of predator silhouettes. The most effective control is to enclose the pond by stretching a light netting over it.

Remember, when feeding birds in your yard, you will invariably attract what some people deem undesirable species. These include blackbirds, grackles, house sparrows, certain woodpeckers and, if trees are present, squirrels. These birds and squirrels do not know the food is not intended for their use. Please use some preventive measures such as modification of feeders and the type of feed offered if you do not desire these species.

Reptiles and Amphibians

Snakes—Many snake complaints come when heavy rains force them to seek higher ground. To keep them out of the house, some preventive maintenance can be performed. First, a close inspection of the exterior of the house should be made and small cracks or openings in the wall blocked. Special attention should be given to the area around the air conditioning unit where the refrigerant pipe enters the wall, and any small holes or cracks should be sealed.

Dense shrubbery and brush, as well as tall grass, provide ideal habitat for small rodents which are prey for snakes. Such areas close to the house should be kept clean and well manicured. If the house is built off the ground, quarter-inch mesh hardware cloth may be strung from the floor of the house to the ground to enclose the area underneath. It is important that the wire is buried at ground level to prevent snakes from crawling underneath. Generally speaking, if you encounter a snake in the yard, leave it alone and it will go its way.

Frogs and Toads—Quite often after a heavy rain, the Commission receives calls from irate citizens complaining about the loud din from breeding choruses of treefrogs and toads. These choruses are fairly seasonal and only last for a few days at a time. They occur during breeding seasons of frogs and toads and take place in large pools of rain water or near lakes and other permanent bodies of water.

The best advice is to close your windows because this is a part of Florida which is natural and short-termed and you're going to have to live with it.

In extreme south Florida, especially Dade and Broward counties, there is an exotic species of toad that presents an altogether different type of problem. The marine toad (*Bufo marinus*) is an introduced species which, when alarmed, exudes a milky secretion from the large parotid glades on its head. This substance can be quite irritating if it accidentally gets into the eyes or mouth, and is toxic to dogs which are foolish enough to bite one. The best policy is not to let small children handle them. These toads have been known to eat leftover dog food from back porch dishes so, once again, reduce attractants like this.

Guidelines For Reducing Conflicts Between Man and Wildlife

A general set of guidelines for reducing potential conflicts between humans and wild animals or birds would be:

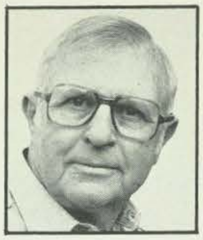
1. Do not feed wild animals and birds unless you are willing to accept the fact that you will invariably attract unwanted species.
2. Secure garbage and trash cans with tight-fitting lids; do not leave uneaten pet food in dishes outside.
3. "Squirrel-proof" your bird feeders.
4. Cover small access holes in the eaves of your home as well as at ground level to prevent entry of small mammals, birds or reptiles and amphibians.
5. Clean up dense brush piles, weeds and vegetation near your home. This will reduce the likelihood of encountering undesirable rodents and reptiles (snakes).
6. Do not feed any wild crocodilians. This is against the law in Florida.
7. Keep domestic poultry and fowl in properly constructed enclosures to ensure against losses to predators.
8. When planting small gardens, plan for losses to rabbits or raccoons. A small chicken wire or electric fence will eliminate most animals. Check into commercial repellents or scare devices.

As a final note of caution, if you encounter a raccoon, bobcat, fox or skunk which is acting abnormally (overly bold, has a staggering walk or appears weak), leave it alone and call the health department or the Game and Fresh Water Fish Commission. It might be rabid. ☐

Wallace Hughes

Leonard Lee Rue III

By CHARLES WATERMAN



Designing and Testing Fishing Rods

Rod designing looks simple but can turn into a complex mixture of mathematics, physics and psychology. Not only does the thing have to work—it has to sell. Some of the biggest sellers have made it for the wrong reasons—things like distinctive colors or wild advertising.

Maybe one out of a thousand sold is truly a custom rod, made for a specific person or a specific purpose. As such it costs a bundle. Frankly, in some cases it is no better than one taken off the rack at a discount store. In other cases it is worth much more than it costs. In any event the true custom rod is more than a production model with your name painted on it. Sometimes, generally due to far-out opinions of the purchaser, it is a freak nobody can use very well.

Some of the lowest humor in the tackle business appears in a tackle shop when shoppers "test" rods. The worst are the fly casters but it's almost as bad with some of the others. One of the more destructive operations is the one where you put the tip on the floor and see how the stick bends when you place too much weight on it. This effect is greatly enhanced if the floor is concrete or is covered with something equally abrasive and you bend the thing so that the rod shaft is grated briskly on the rough surface. This little checkup can almost ruin it, whether it's glass, graphite or bamboo.

With short casting rods there is the one where you grab the tip and try to touch the butt with it, a spectacular test with little relation to any kind of fishing.

Then there is the whip cracking routine in which you snap the rod violently with both hands. With this you can prove instantly if it is tough, whether you can cast with it or not.

There's a dandy in which you lay the rod on a counter with the tip projecting straight out and you twang the tip and count the number of vibrations per minute. This gets a lot of attention from other customers and often scares the stew out of the clerk.

The excusable part about some of these tests is that there are a very few experts who can actually tell something by them, even though most of the testers are just showing off. For most of us, the only way to test any rod is to rig it with line and lure and actually cast it.

But the chosen few who can actually pick and cull expensive graphite or glass rod blanks classify as designers. There is the matter of "splining," something that doesn't mean much to most of us but is a common word among builders of better rods. Tournament casters are likely to be big on the splining business, as are some others who cast with precision. Oversimplified, it's just the way the rod wants to bend naturally.

I've seen splining tested many times, both by those who understood it and those who didn't. I was impressed by Bill Luscombe, custom flyrod maker of Die Werke International in DeLand. He took a custom bamboo flyrod tip, bent it carefully, watched it turn in his hand and announced which way a loop would fall off at the end of a cast. Of course splining is what dictates where the guides should be placed on a rod or if the blank should be used at all in quality merchandise. I know just enough about that to know it's pretty important stuff when the caster is to be an expert.

Now Luscombe, who makes custom flyrods with graphite, goes into it all the way. When he makes your rod he wants to know some arm measurements and some shoulder measurements, the object being to know how the first or stripping guide should be located. I'm not telling this to be instructional—simply to point out that there's a lot to it. Such things are well known with regard to custom guns—less common with fishing tackle.

Not everyone fishes often or well enough to make use of a rod that costs several hundred dollars—but then not everyone can make good use of custom-fitted baseball bats or a sports car either.

Fishing Hands

"Fishing hands" become a popular subject with use of the plastic worm in slow bottom manipulation and they had long been discussed by users of bottom bumping jigs. The freshwater trout fishermen using nymphs near the bottom is brother-under-the-skin to the sheepshead fisherman along Florida's coasts, both types of angler have reputations for "setting the hook just before he strikes." The sheepshead is a noted bait thief and the freshwater trout taking a nymph can spit it out before you know he has it.

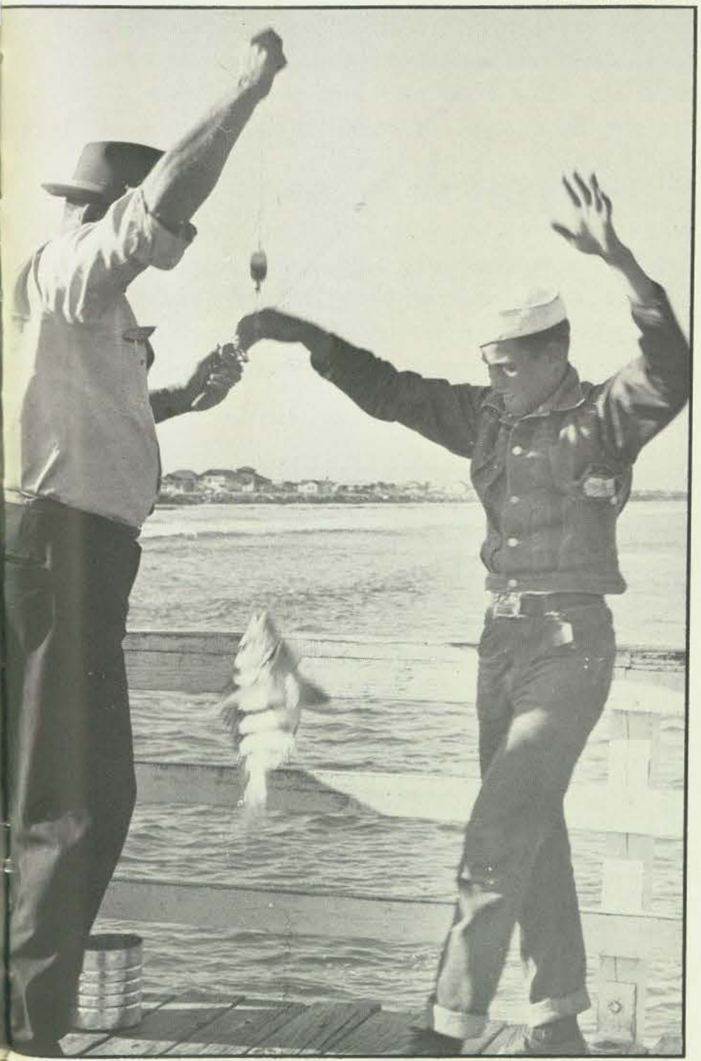
Probably the most delicate bite indicators are the auxiliary tips employed by some of the competition fishermen of Europe when tiny rough fish are collected to win tournaments. The tip just flips over when the fish is actually landed but it indicates the slightest nibble.

Experts after a variety of sneaky fish often take hold of the line as it comes off the reel, using their fingertips to get a more direct feel.

It's not always tiddlers that require such sneaky methods. Many years ago I went fishing with a guide who used dead mullet for big tarpon, still-fishing the big bait on the bottom. The idea was (and is) to get the fish to pick up the bait and swallow it before he feels anything wrong. You needed a line that wouldn't draw tight until you were ready to rare back on him.

This guide would locate his bait on a suitable sand bottom and then strip a little line from the reel, coiling it neatly and putting a cardboard matchbox on top of it. When the bait was nudged the matchbox moved. I am sure there are more scientific methods but watching a teetering matchbox can be pretty exciting, even if it happens to be a crab on the other end.

Charles Waterman



Sheepshead adagio. Pier fishermen react with enthusiasm to a sheepshead, champion of bait stealers. Hooking one of these fish is a touchy business.

Canoe Poling

I've received some letters from a canoe manufacturer who didn't want to pay the proposed tax on pleasure boats (fund to be used for Dingell-Johnson projects in bettering boating and fishing conditions). His pitch was that his canoes are not used for fishing—or very seldom are—and that he shouldn't have to support somebody else's hobby. In all fairness his firm makes canoes probably more often used for "pure" cruising and racing, but he insisted that canoes are not used much for fishing, a shock to those of us who have used them for years and have read countless fishing ads from canoe manufacturers.

In some places nothing does it better than canoes and many waters are fished more with them than with anything else. Since most of us think of them as downstream conveyances, the business of going upstream, even on swift rivers, is largely ignored and unknown. Some years back I got a little excited about that when I went to Canada where the salmon guides were expert at poling *upstream*. I promptly got out a glass pushpole and practiced a little. Even in my greenhorn awkwardness it was surprising where I could go with the blamed thing.

One of the things you might not have thought about is the extreme lightness of a canoe with only one person aboard poling. As he thrusts with his pole, he lifts much of his weight off the canoe's bottom and is moving a boat that actually skims the surface.

The real canoe polers generally use very slender poles that offer slight water resistance and can be moved forward in stabbing, poling strokes without the foot of the pole being removed from the water. Aluminum is preferred for this. The poles are long enough and light enough that the user can sit down and use them like double-ended paddles in kayak fashion.

Another thing the average observer doesn't think of is the use of skillful water reading on swift creeks and rivers. What I noted in my skimpy experience

By WATERMAN

with expert polers was that they take advantage of all sorts of obstructions. Find a backwater on a fast river and they scoot across it. Come up below a current-splitting boulder and they slide over the dead water below it. They take advantage of the streak of slow water found near the river's edge and they hunt the slow part on the inside of bends. They can go faster downstream, of course, but they make surprisingly good time by picking the easy stretches.

This is good stuff on water so shallow or rocky that motors wouldn't work. It requires a sense of balance and possibly a fall or two to begin with but the possibilities are mighty appealing.

The fisherman's idea of poling up and drifting back makes sense and, for short trips, it avoids the complexities of using two vehicles for launching and pickup.

In summation, let's say a good poler can go lots of places you wouldn't think he could—and a lot of places a fisherman would like to be.

Muddy Waters

Just how muddy is too muddy has long been a question. We know that a catfish going for a ripe morsel doesn't need to see at all. Of late, some of the topnotch black bass fishermen have caught fish in waters generally considered too dingy. Their explanation is that the fish doesn't see the lure but hears it or feels its vibrations (about the same thing for a fish). I once caught a very good bass in water almost muddy enough to plow but would never have tried it except that I had absolutely nothing else to do.

I was a kid at the time and my parents consented to let me fish in a trickle called Cow Creek (how many are there?) while they drove to town for the shopping. We lived five miles from sidewalks and pavement.

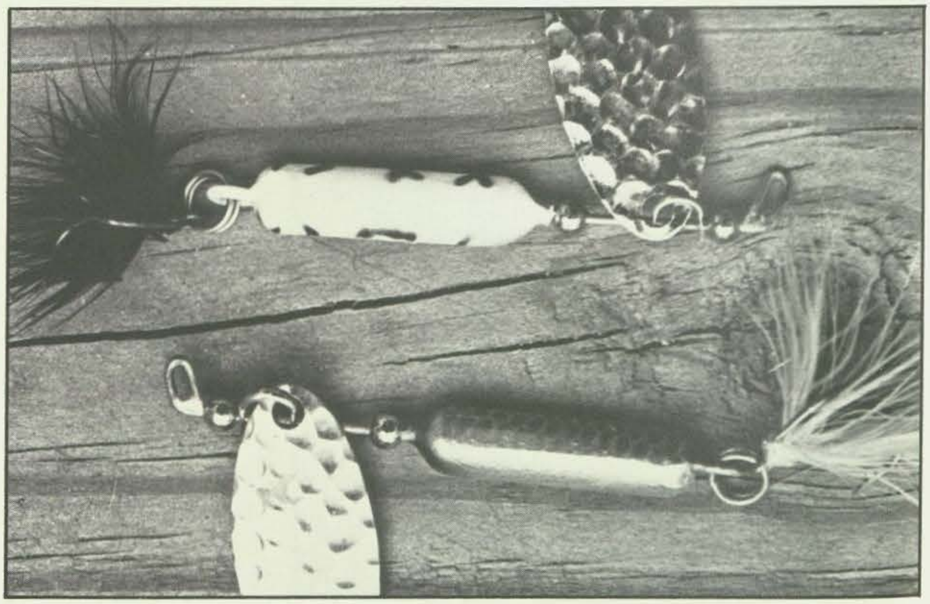
Clutching my tubular steel rod and Montgomery Ward reel I jumped out at the creek and my folks drove on. Then I saw that rain had made Cow Creek too muddy to fish but there was nothing else to do but practice casting. I would like to say the fish was a 10-pounder (big for Florida) but it was a 3½-pounder (huge for Cow Creek back in Kansas). I couldn't figure how he found my plug but I know now that he sensed its vibrations—or possibly it actually bumped him gently.

But some waters are always murky and the residents learn to live and feed in it. Cloudiness that would turn off fish in some waters would be perfectly normal in others.

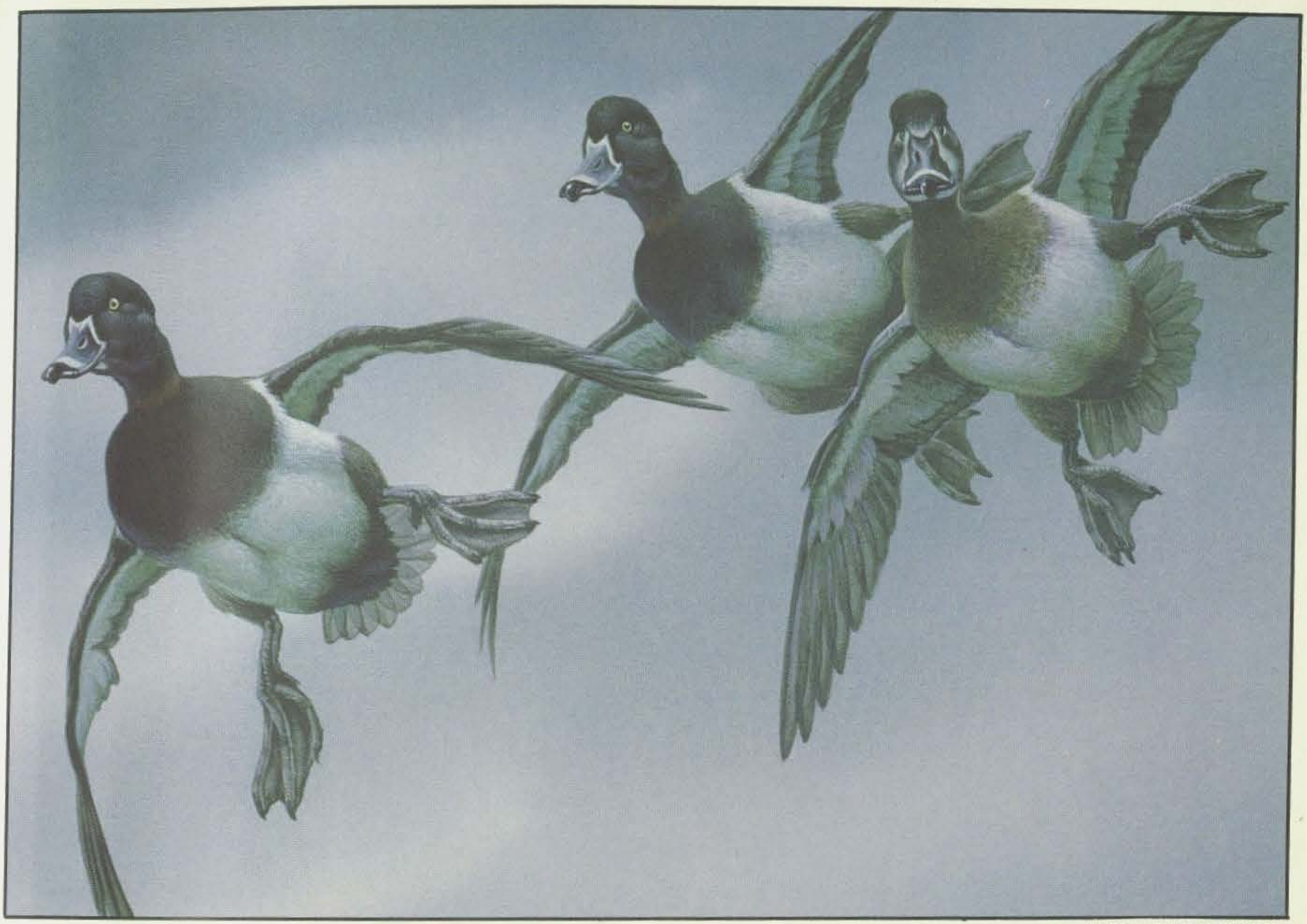
Stop Line Twist

Keeping spinners from twisting lines has been a job for all sorts of swivels. The Cotton Cordell lure people have introduced a spinner for light tackle, mounted on a shaft with an offset eye for the line. Behind the spinner is an ordinary treble hook with dressing. What you have is the shaft of the spinner thus becoming a sort of keel and the lure rides upright. Same type of stabilization has long been used with jigs.

Lures that twist lines are especially aggravating when they are used with ultra-light tackle and you don't want to use bulky swivels. Swivels are a poor subject for economizing but are often bought as a necessary evil with no regard for some of the ball-bearing types that cost a little more and really stop twisting. □


Charles Waterman

"Cottontail" lures from Cotton Cordell bait people use rigid, upturned eyes for line to avoid twisting.



RING-NECKED DUCKS

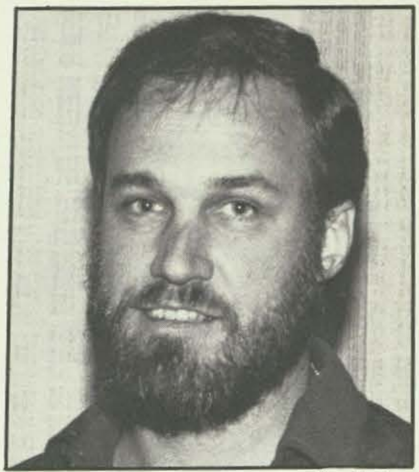
1982-83 Florida Duck Stamp Contest Winner

This year a Florida resident's artwork was selected to grace the 1982-83 Florida Waterfowl Stamp. Tampa artist Lee Cable's painting of ring-necked ducks was chosen as the winning design by the Game and Fresh Water Fish Commission from 146 entries in the competition.

Cable will receive no money from the Commission for his painting; however, judging by the experience of past winners, he should receive substantial financial gain from the sale of limited edition prints of the design.

A native of Ohio, Cable came about his love of the outdoors from hunting and fishing jaunts taken with his father around the family farm. After a stint in the Air Force, he and his wife settled in Greenville, Ohio, where he worked as an art director. They later moved to Florida where he worked for a Lakeland advertising firm and then with the *Tampa Times*. While at the newspaper, Cable's interest in wildlife art began to flourish. He started writing and illustrating stories on wildlife which appeared in the *Florida Sportsman* and the *Tampa Tribune*.

In 1975, he made the decision to turn full time to wildlife art and his decision has been a good one. He has had several successful shows and won several state awards.



CABLE Jim Farrior

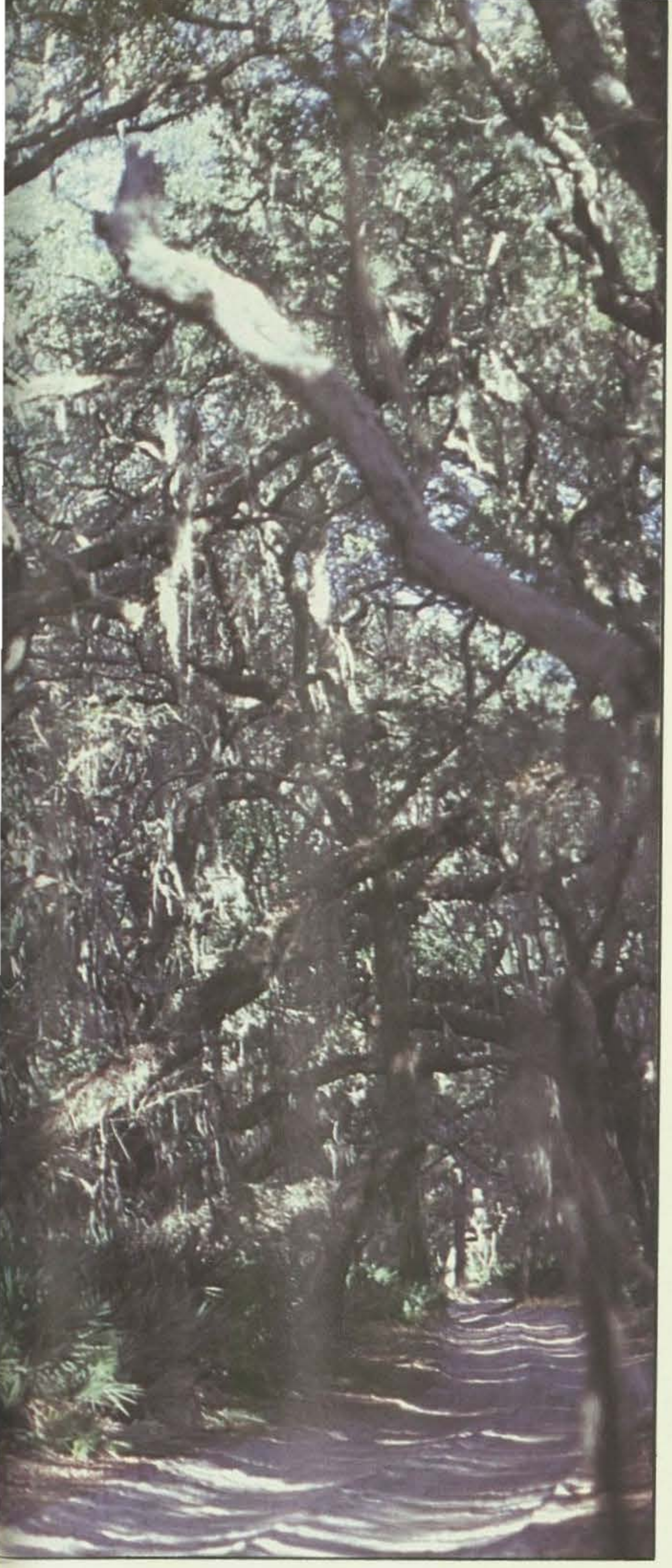
Cable attended the Commission meeting in Tampa where the contest judging was held and admits he was nervous when he saw the level of competition. "I could see at least 30 paintings which were possible winners," he said.

"It took about two days for it to sink in (that I had won)," Cable added. "It was a real honor when you consider the caliber of artists who entered the competition."

—Trisha Spillan □

HAMMOCKS

The "shady places" are natural treasures that deserve protection. By Neal Eichholz



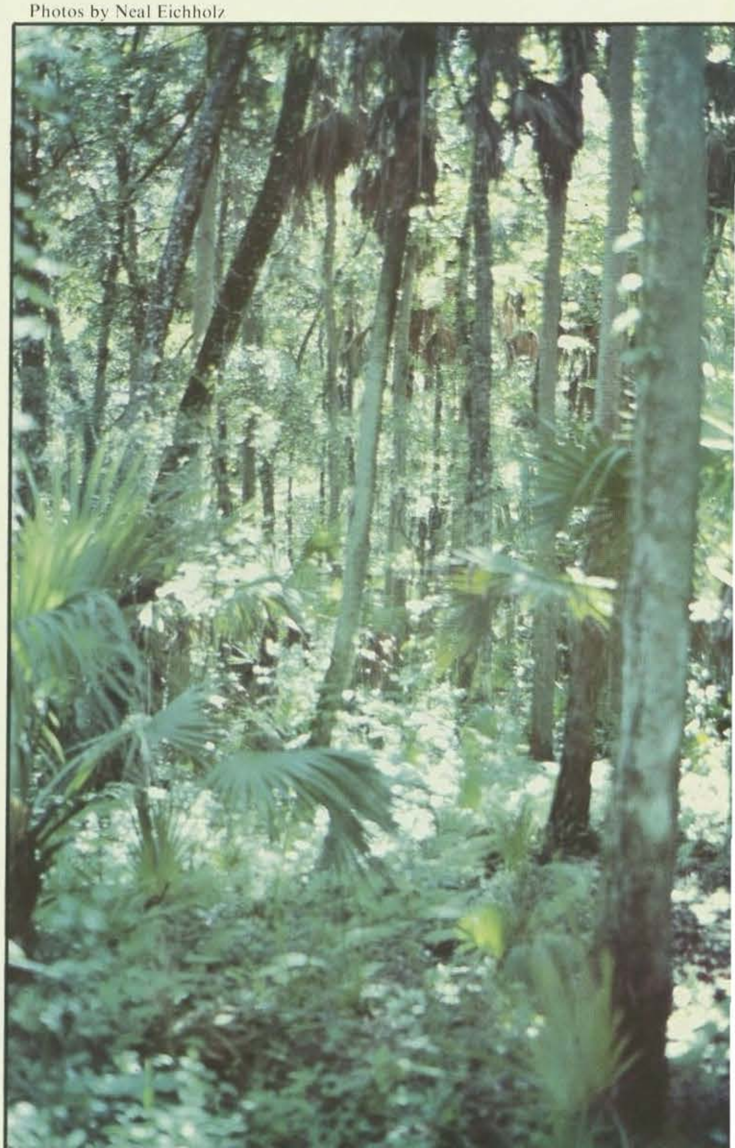
The Indian translation for the word "hammock" is said to mean "a shady place." According to Webster, a hammock is "a fertile area in the southern U.S. and especially Florida, usually higher than its surroundings and characterized by hardwood vegetation and deep humus-rich soil." Throughout Florida hammocks fall into various categories and are often named for the trees that dominate; such as "oak hammocks," "cabbage hammocks" and "magnolia hammocks." Land elevation often influences the name and hammocks are sometimes generalized in terms of "low hammocks or high hammocks."

Xeric hammock, left, with live oaks and palmetto, typical of this dry habitat type. Sabal or cabbage palm dominates the wet hydric coastal hammock, below.

Many locals simply refer to the hammocks as swamps although the term swamp is in the strict sense incorrect. Many hammocks are poorly drained and have standing water during the wet seasons or ponds, creeks, and bona-fide swamps lying within their confines. All this adds to the confusion of the hammock nomenclature. Hammocks are also named according to local tradition and are commemorative of people, places and things or for other miscellaneous reasons. Names such as Foster Hammock, Gulf Hammock, Powell Hammock, Blue Hammock and Tiger Hammock are real and typical.

Botanists have complicated things further by categorizing hammocks into xeric (dry), mesic (moderate) and hydric (wet) types. Such terms refer to the extent of water saturation in the soil where a particular hammock occurs.

Photos by Neal Eichholz

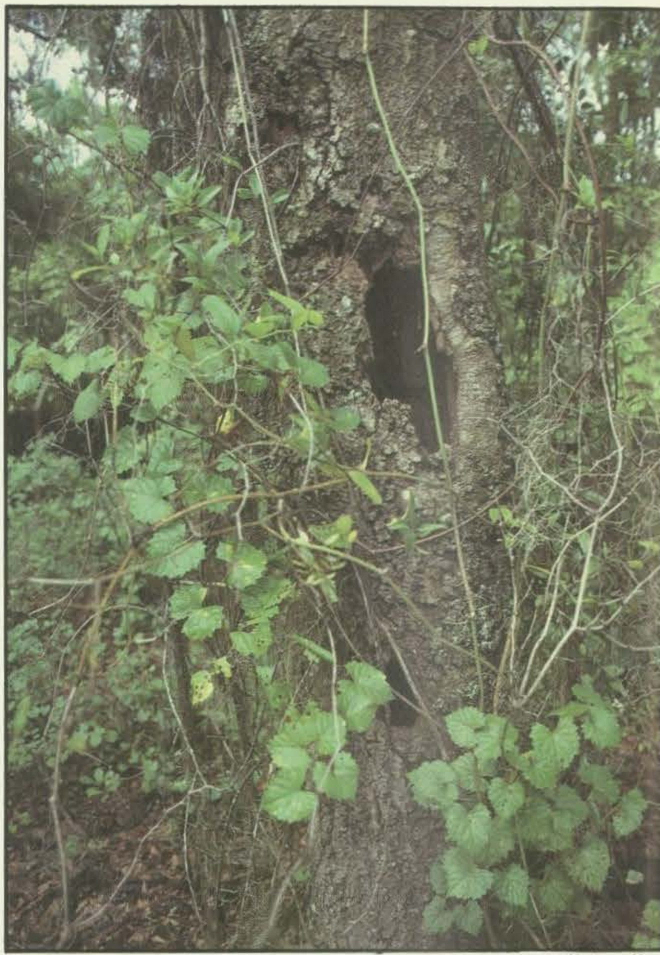


HAMMOCKS

Early Floridians and Indians chose hammocks for dwelling sites because the broad-leafed trees provided shade and cooler temperatures in the summer. Well drained and higher elevated hammocks have the added advantage of fewer mosquitoes and strategic locations such as high bluffs overlooking a river offer a cool breeze with a vista. The attractiveness of high hammocks to early settlers is evidenced by the fact that many of our larger cities are positioned on higher grounds where hardwoods existed.

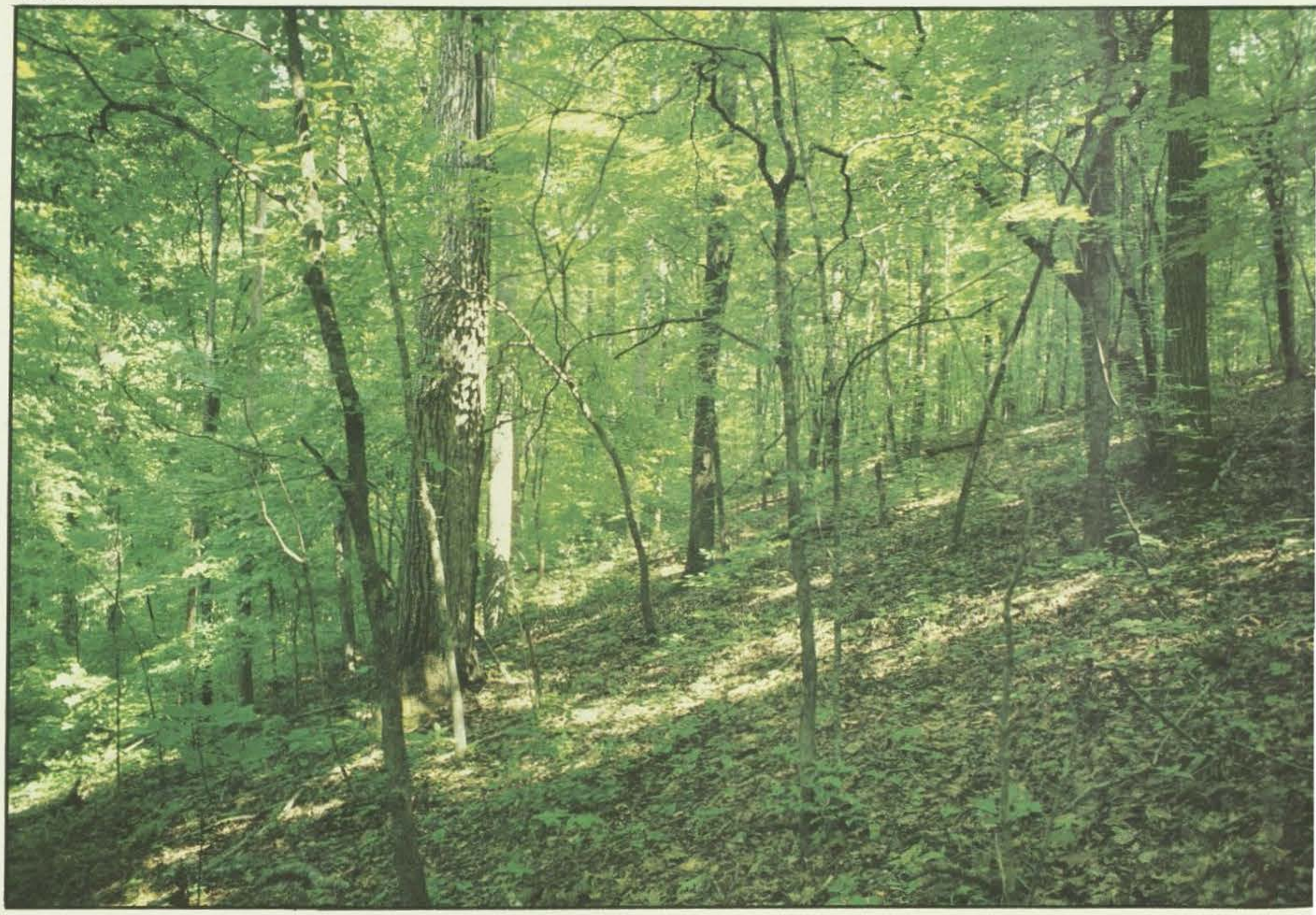
Wildlife prefer these habitats since many of the same benefits that attract man also apply to animals. Hardwood associations provide a greater diversity of habitats per unit area than pine forests, swamps or mixed pine-hardwood associations. A variety of trees produce food in the form of nuts, berries, buds and other edible items which ripen throughout the seasons of the year.

Hammocks with a mixture of old and young trees are more valuable to wildlife than those with only one or two age classes. Mature hardwoods, especially oaks, produce more wildlife food than younger trees and the older trees have more decay and therefore, more natural cavities.



Wallace Hug

Neal Eichholz



Cavities are more numerous in hammocks because the vegetation is more prone to decay. Pine forests have fewer cavities because when a living pine is scarred by fire, wind, insect attack or disease, the tree responds by exuding resin into the tissue of the affected area. Resin has inherent chemicals that inhibit attacking insects and act as a healing agent for the tree. Most hardwoods, however, lack this natural resistance and decay and excavation of wood is a common phenomenon. Holes and cavities that are produced by such action serve as nesting sites, dens, roosting areas or escape cover from predators or inclement weather. This same decomposition attracts fungus and insects upon which the larger forms of wildlife feed thus creating an intricate and complex cycle of life. Squirrels, raccoons, opossums, mice, bats, screech owls, warblers, wrens, woodpeckers and wood ducks are some of the more common animals that depend on cavities for their existence.

Wallace Hughes

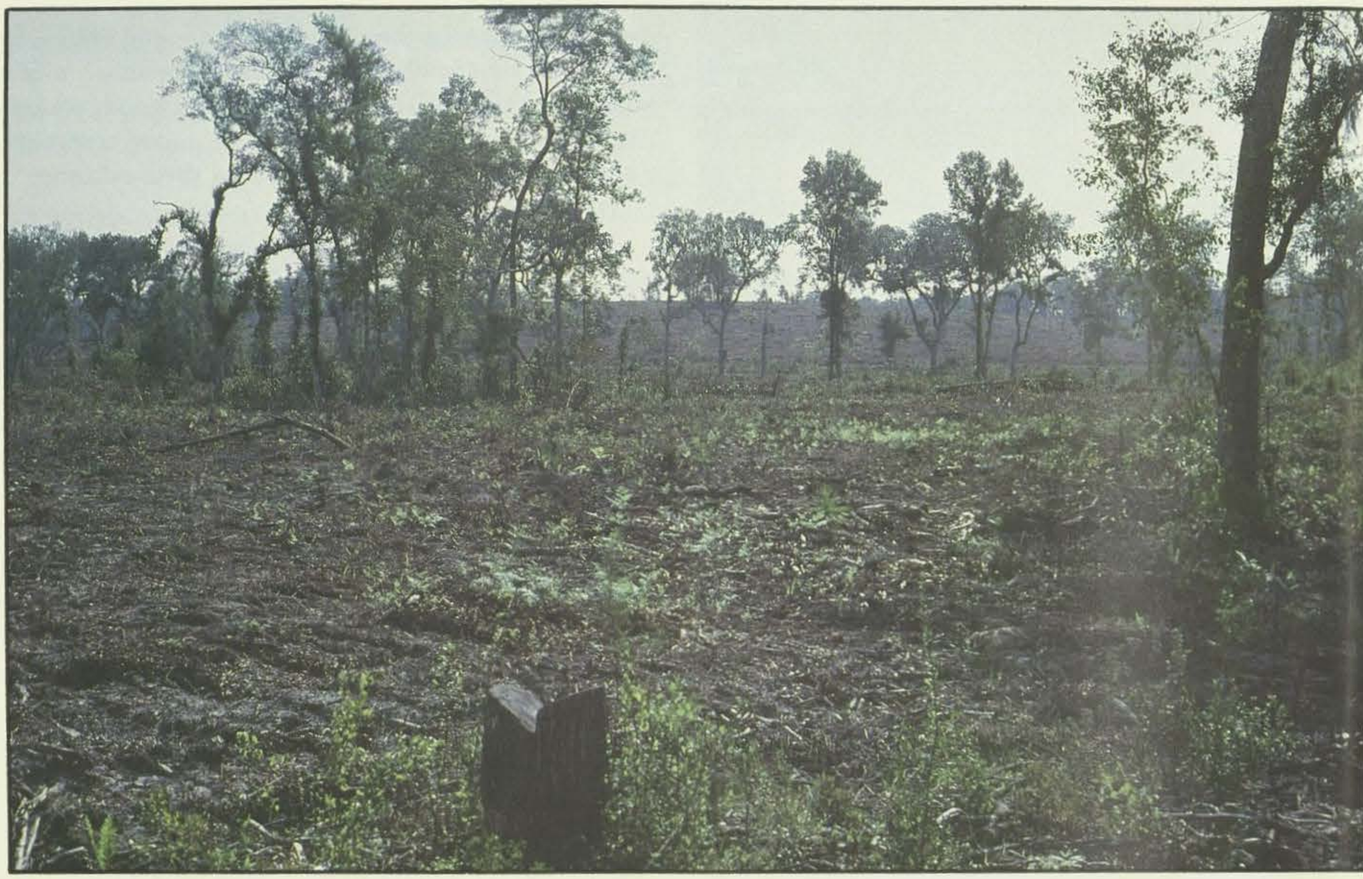
Hardwood hammocks harbor numerous micro environments that serve as habitat for small inconspicuous creatures. Fallen trees, accumulated leaf litter, mosses, lichens and a myriad of miniscule niches offer shade, higher humidity, cooler temperatures and protection in the form of concealment, physical barriers and nest building materials. Mosses, twig ends and leaf litter are heavily used by squirrels, mice, shrews, birds, snakes and insects for concealment and nest construction. Songbirds that build moss nests include parula warblers, yellow throated warblers, orchard orioles and painted buntings. Hardwoods and hammocks are the preferred habitats for migrating songbirds and the hawks that feed on them. Some of the more inconspicuous species that live in hammocks include hummingbirds, shrews, bats, flying squirrels, tree frogs, toads, box turtles, indigo snakes, coral snakes, skinks and lizards. Insects in hammocks are too numerous to name, but some of the more notable ones include the large and showy luna and imperial moths, millipedes, centipedes, katydids, crickets, and cicadas. Worms and caterpillars are among the myriad insect larvae that need the broadleafed plants as a food source.

The dense overhead layer of the broadleafed tree

Neal Eichholz

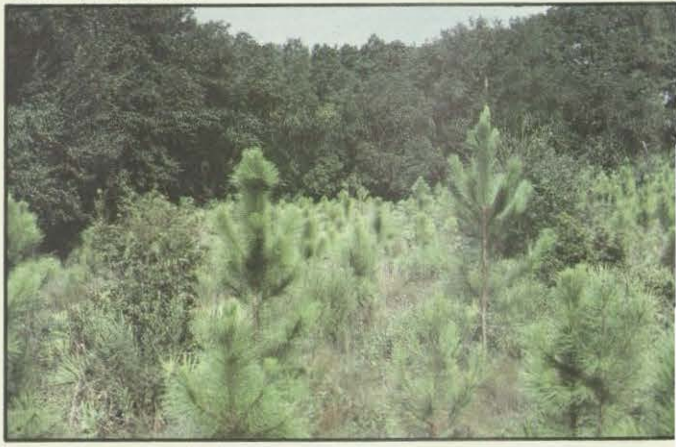
Clockwise from upper left: Older trees often have cavities that offer nesting sites for a variety of creatures. Such cavities are vital to healthy gray squirrel population. A hardwood hammock borders this swamp. Heavy leaf litter covers ground in upland hardwood, or mesic hammock at lower left.

Neal Eichholz is a biologist with the Commission's Office of Environmental Services.



Photos by Neal Eichholz

HAMMOCKS



Clear-cutting is fate of substantial amount of hammock land in Florida, upper photo. Planted with pines, remnant of hardwood stand is represented by live oaks in background, above. Decaying hardwood, upper left on opposite page, shows work of red-bellied woodpeckers. Turkeys find good foraging in the leaf litter of hardwood hammock, right below.

canopy intercepts heavy rainfall and acts as a natural umbrella for the wildlife living beneath the trees. The canopy closure also prevents the intense rays of the summer sun and acts as a barrier against high winds. Once moisture has penetrated the hammock environment, evaporation is restrained and humidity is maintained at higher levels for longer periods of time. This stable environment of temperature, wind, moisture and sunlight maintains the many different habitats in close proximity. Mushrooms, snails, slugs, worms, frogs, snakes and thousands of insects occupy these tiny habitats.

Florida originally had about 2 million acres of hammock land. The insidious growth of civilization and its associated development has taken its toll on these plant communities and today there is only a vestige of this forest type remaining. Agriculture has replaced thousands of acres of hammocks as the soils are often well suited for farming or supporting citrus and livestock. Hammocks are quite resistant to minor abuses but when they are severely altered they are slow to recover. Logging as practiced in past times had relatively minor effect on the hammock plant community and its associated wildlife. More recent forestry practices include the producing of pulpwood by clearcutting large acres of mature hardwoods and replanting with pines on a short rotation schedule. The great coastal hammocks bordering Florida's Gulf Coast from Homosassa Springs north to St. Marks are being eliminated by clearcutting and large acreages are being mined for limestone. A few small tracts of hammock have escaped due to protection by private landowners, government ownership or because they are economically unprofitable to exploit.

Florida's hammocks are wildlife's most valuable habitat and should be considered as state and national treasures that are a part of our heritage. Section 7, Article 2, of the State Constitution provides that "...it shall be the policy of the State to conserve and protect its natural resources and scenic beauty." At the present time, however, no law exists that regulates or controls the management or manipulation of these beautiful and valuable environments. Endangered species have laws that protect individual animals from direct harassment while entire assemblages of ancient plant communities upon which these wildlife species depend have no protection.

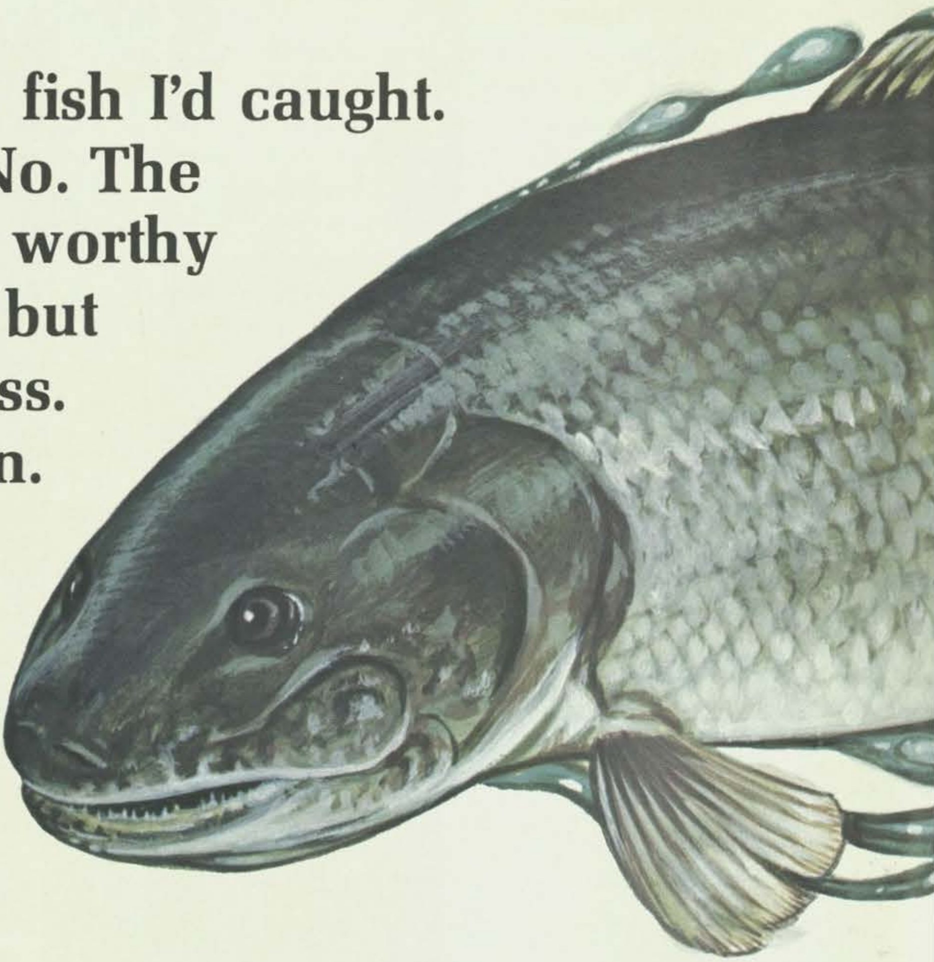
Once these plant communities are lost, they can not be replaced by appropriations from the legislature or by engineering projects. Even if laws were enacted today, there is little hope that the thousands of acres of hammock land that have been ravaged will ever resemble their former condition. Along with photographing eagles, manatees and panthers in Florida, we should be taking pictures of hammocks as they are soon to be gone, forever. Only a major shift in emphasis on land use regulation laws and environmental planning can alter this inevitable outcome. ☐

Neal Eichholz

Patrick Elam

Billy Hillestad

I examined the fish I'd caught. Record bass? No. The fight had been worthy of a bigmouth, but this was no bass. It was a bowfin.



BOGUS

Night was coming on fast in the lake country of west-central Florida. I directed that well-known "final cast" toward a bonnet-grown cove of Tsala Apopka. It was a likely looking black bass haunt.

The lure plopped near the edge of the pads. Wham! A fish slammed viciously into the topwater Lucky 13. He meant business, and visions of a wall-mounter flashed through my mind.

What a brawl! This fish was really irritated. Splashes from the night-hidden jumps dimly reflected white water. The 8-pound-test spinning line vibrated like a plucked guitar string, and, silhouetted against the slowly darkening sky, I could see my rod developing a U-bend. This was no panfish, nor junior-size bass.

I heard the fish leap once, twice, three times. Then he submarined toward the pads despite the rod's pressure and the reel's drag.

Suddenly slack line signaled he was reversing course, but only momentarily. Seconds later, he turned sharply and wallowed noisely on the surface. Seconds that seemed like hours dragged past, but still he fought stubbornly.

Finally, the rod's pressure began to tell, and slowly he gave ground toward the boat. Pumping steadily, I brought him alongside, fumbled for and found my net, and landed the scrapper.

By flashlight, I examined the fish. Record bass? No. The fight had been worthy of a bigmouth, but this was no bass. It was a bowfin, seldom sought, despite his fighting ability. He'd put up a grand fight!

Since that long-ago introduction, I've come to regard the mudfish as one of the most underrated of freshwater fighting fish. The fish that nearly gave me heart failure on Tsala Apopka that night weighed about three pounds, but no three-pound bass ever staged a more determined fight.

As a result of numerous encounters since, I've come to respect the bowfin as a fighter under any of his aliases, and he has more names than a New York con man. Unlike many anglers, I enjoy tangling with this piscatorial throwback, for as a fighting fish he's tops. He guarantees action whenever he hits, and

Wallace Hughes

BASS

obligingly he hits often when you're in his territory, and often when bass won't.

This brawling, bogus bass truly deserves more recognition as a fighter than he's generally accorded. When you consider he fights like a bass, but harder and longer; he jumps like a bass, only higher and more often; and he hits any lure a bass will smack, you wonder why his lack of acclaim in the sport fishing world.

The reason, undoubtedly, is because he's considered lousy table fare. But then so are tarpon, bonefish, ladyfish, and jack crevalle. Yet these scrappers all rate far more kudos than does ol' bowfin.

However, things are changing, and his fighting ability is gradually being recognized. The once ignored bowfin is now listed by the International Game Fish Association. The IGFA recognizes and keeps records on the bowfin since taking over the freshwater record keeping from *Field and Stream*.

The IGFA has six line categories but, as of November 1981, three of them were vacant. However, it shouldn't take too long to fill the empty slots once anglers realize there's world recognition for catching record bowfin. Florida, with its abundant supply of mudfish, shouldn't be too long in joining the record ranks.

By Max Hunn

BOGUS BASS

IGFA now lists bowfin records in the 4-pound, 12-pound, and 20-pound line test classes. The 4-pound mark is a 3-pound, 4-ounce mudfish landed in Graham's Lake, Georgia.

The 12-pound test record of 6 pounds, 9 ounces is held by Thomas Ailor, who caught his prize in Chickahommy Lake, Virginia.

The biggest mudfish landed to date was boated by Robert Harmon in Forest Lake, Florence, South Carolina. He landed a 21-pound, 8-ounce scrapper on 20-pound test line.

In my mind, there's no doubt a bowfin's worthless table fare, although you could eat him if you were starving. If you cook a mudfish, you find his flesh tastes like cotton. This undoubtedly accounts for one of his aliases—cottonfish.

Known generally in Florida as bowfin or mudfish, this fish has more *noms de plume* than a bad check writer. Depending upon his U.S. location, he's a speckled cat, brindle cat, blackfish, grindle, choupique, lake lawyer, cypress trout, scaled ling, dogfish, and #?!—real mule skinner names.

He's found from New England to the Great Lakes and south into Florida and west into Texas. In every locale, he's a brawling fighter, and a tackle wrecker.

Ol' Bowfin delights in giving unsuspecting bass fishermen heart attacks, and undoubtedly originates many tall tales of big bass breaking tackle. I have a sneaking suspicion upon hearing a yarn about a never-sighted big one getting away that Ol' Man Mudfish provided the fireworks. It's logical, for bowfin are abundant in bass waters and are better equipped to cut lines.

One reason for his lack of recognition is that mudfish often take over bass waters, despite periodic attempts to eradicate them as rough fish. A bowfin has an advantage over a bass in his ability to survive during low water periods that quickly kill game fish.

He has an air bladder connected to his throat which, used as a lung, enables him to live in waters unsuited to other fish. Actually, he can survive in mud.

Although the mudfish is found in all sorts of waters, he does have a preference for sluggish, black bottom waters. Your chances of encountering him are much greater in slow water than in fast, although just when you think you've learned all his habits, he surprises.

I've tangled with bowfins in many Florida areas. I've caught him in the canals and highway ditches of south Florida; in the Withlacoochee River in west-central Florida; in prime bass waters in Lake Okeechobee; in the St. Johns River, as well as in the Choctawhatchee in the Panhandle. He can be found in almost any waters, and when in a hitting mood, you know it.

A brawling, bogus bass is easily identified as a bowfin by the general overall brown to black coloring that fades to a light to muddy brown on the belly. His flat head is vicious looking, and his elongated dorsal fin covers two-thirds of his body starting with his blunt tail. His shiny, coarse scales give him as irridescent appearance and his eyes, which are set in a sloping forehead, are small and wicked looking.

For memorable, light tackle brawls, here are a few tips. He's not fussy about lures. He socks any artificial when in the mood, showing a slight preference for diving lures. He hits topwater lures, deep-running plugs, spinners, spoons with and without pork rind, jigs with various skirts, and streamer flies.

How he loves plastic worms, particularly blue-colored ones! He can be caught with bait casting, spinning, and fly tackle as well as with cane poles.

He clobbers bait—both live and dead. He hits minnows, freshwater shrimp, crabs, frogs and even worms. He's a pest to the cane pole brigade. If you're seriously bait fishing for the table, and a bowfin pack moves in, all you can do is move out. He'll beat any bass, bream, or shellcracker to the bait consistently.

Normally a mudfish is at his best on a medium spinning rod. It allows him plenty of fighting leeway, yet you can win. Eight-pound test line suffices if you have a landing net. If not, use heavier line. A bowfin goes crazy upon feeling a small gaff or metal fish grippers, and unless you're using a leader, the violent action will snap your line.

A good method of averting this tackle destruction is by using a 15- to 20-pound shock leader, some 12 to 15 feet in length. This enables you to be actually landing with heavier line when the strain is the greatest.

But more important, play him out before attempting to land him. You just don't horse in a green bowfin, if you want to keep your tackle intact. He teaches you how to use your rod properly in a hurry, or to invest in a partnership in a tackle store to replace the lures you lose.

Ol' bogus bass is a battling fool, in or out of the water. Watch out when unhooking him! He flops around wildly in a boat just like a tarpon. Subdue him quickly before he can drive loose hooks into you. Also be careful of his little, sharp teeth, and powerful jaws unless you've got fingers to spare. He can and will bite hard!

The bowfin may just now be getting the IGFA recognition he deserves because, pound for pound, ounce for ounce, he gives you more action than some of the more highly publicized game fish. □

Kit and Max Hunn

Beauty of the locale makes up for whatever the mudfish lacks in appearance. Author claims the fish is state's most underrated freshwater scrapper.

AN ARTIST LOOKING TO THE FUTURE

W. Stanley Proct

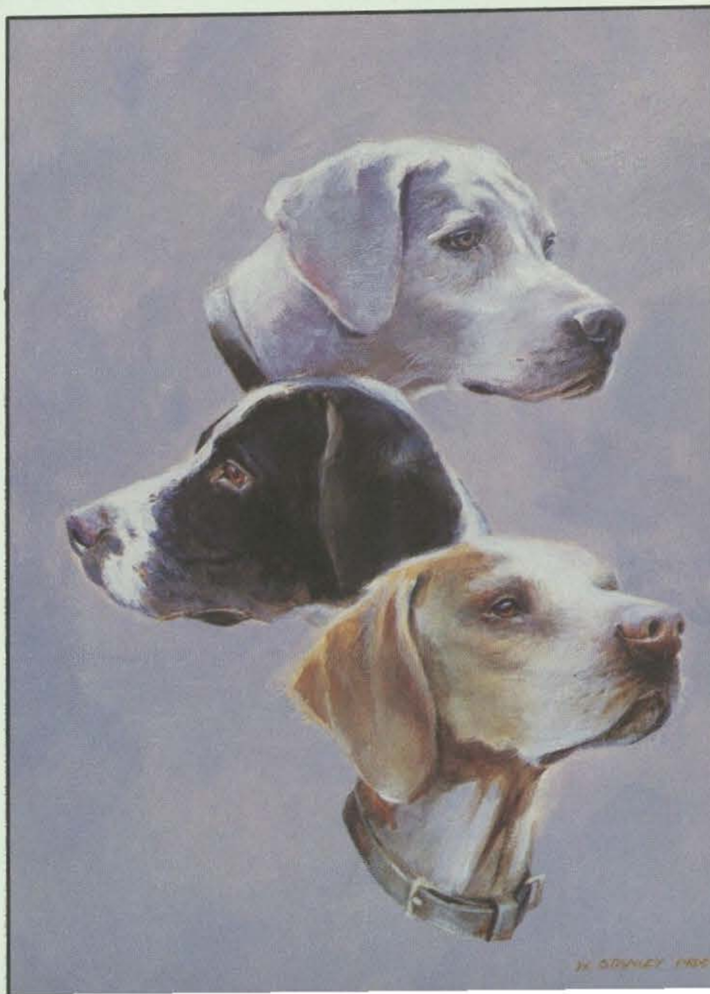
By Trisha Spillan

Don't try to pin a label on Sandy Proctor. He isn't just a bird artist or a sporting artist or even a wildlife artist. If you have to call him anything, just call him an artist who feels at this point that he has gotten more out of painting, in terms of personal growth and awareness, than he has put into it.

That's the way he described his feelings after his second show at the LeMoyne Art Gallery in his hometown of Tallahassee. It was at LeMoyne four years ago that he had his first one-man show. It was a complete sellout the day it opened and catapulted him from a life as a successful business man into that of a sought-after painter.

His second LeMoyne show last fall sold out the day it opened as well, further solidifying his popularity.

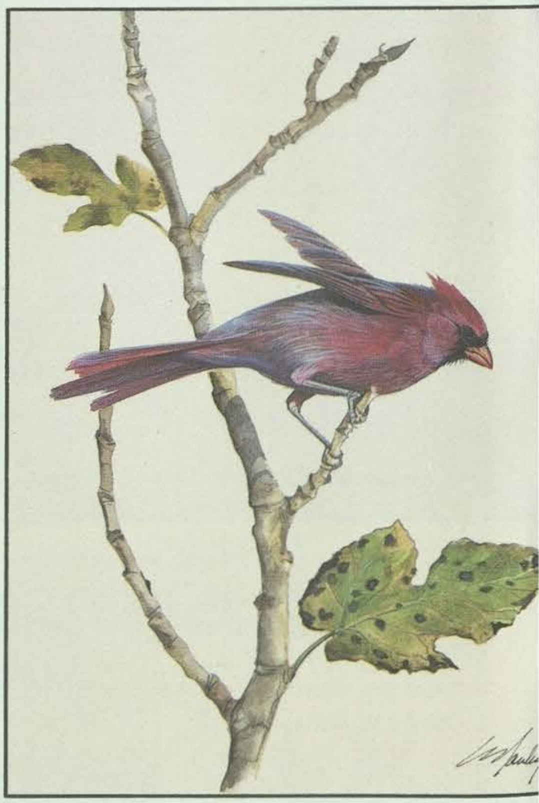
"I would hate to think that five years from now my work would be the same," he said. "There are so



Wild turkeys, a popular theme for art by Sandy Proctor. Trio of dog heads is study of shadows and shadings.

Proctor

W. Stanley Proctor



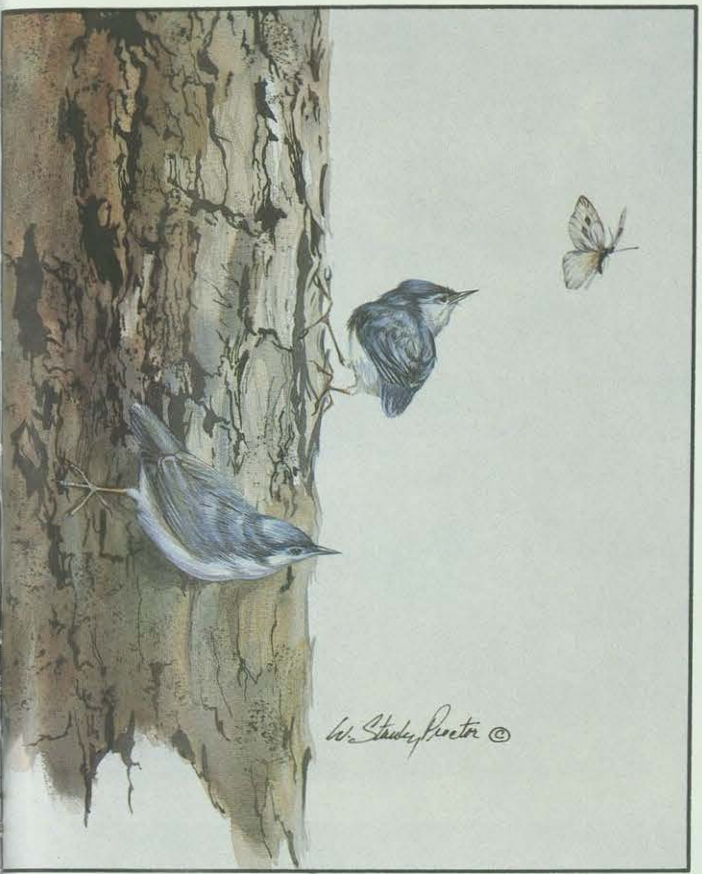
many things out there to paint. I don't even know what I will be doing two years from now."

Much of the current works by Sandy, or W. Stanley Proctor as his paintings are signed, are bird art, but not strictly illustrations. Struggling to help elevate bird art out of the realm of pure illustration has been one of his goals.

"Most of my paintings are of birds," he admitted, "and as such are considered 'bird art.' However, rather than making the birds dominant I try to integrate them into the scene...to show the interaction between a subject and its environment."

You can't even pin Proctor's work down to a single palette. That is ever changing as he experiments. "I never learned colors," he explained. "It's a strictly visual thing. I am learning some new colors now and what I can do with them."

He doesn't like oils—look for mostly acrylics or



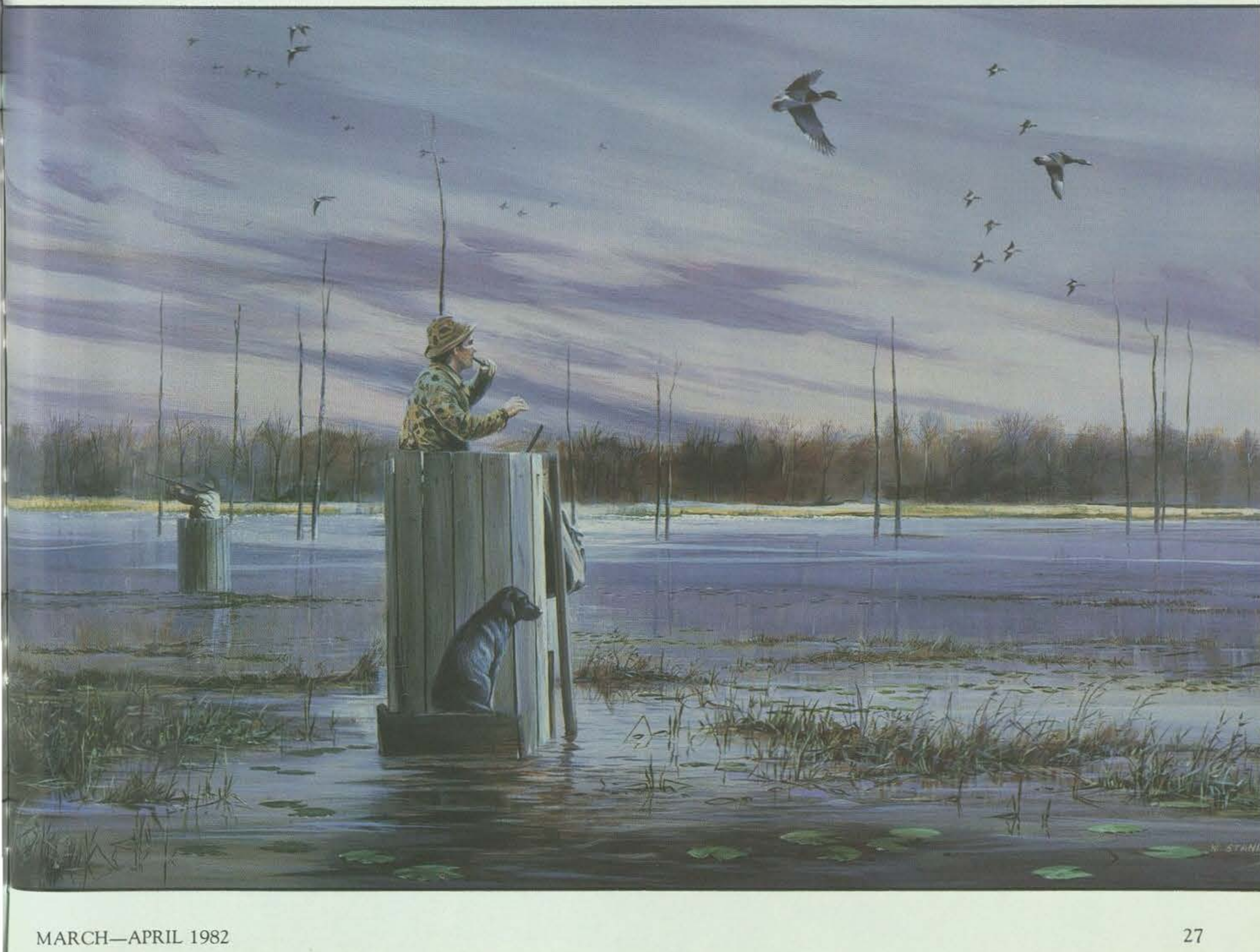
Diverse collection of his bird art, clockwise from left: Mallards coming in. White-breasted nuthatches eye a butterfly. Hunting scene on Hildebrandt Reservoir. Male cardinal in all his glory.

watercolors by him. And look for subjects that capture a scene or way of life that is different and perhaps fading.

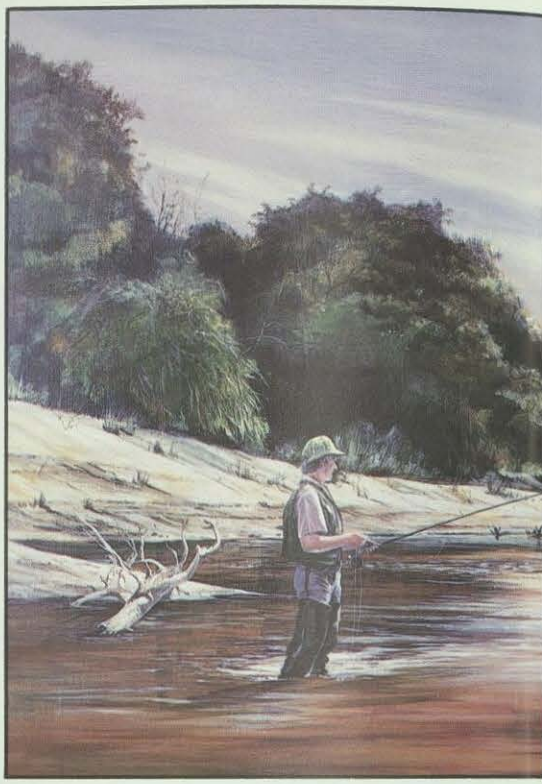
His "Hildebrandt Reservoir," for example, is not a painting the average sportsman can identify with in the sense of having been there. Instead it records a kind of duck hunting found nowhere else. At the Arkansas reservoir, hunters are seated in cypress tubes in the reservoir. There are five cypress tubes in a line and three lines on the lake. The hunting is done by shooting one line at a time.

"It's just a way of hunting you'll never see anywhere else," Proctor says. "It is hard for the average duck hunter to relate to unless he has done it and thus it is hard to sell."

The salability of his work concerns him but not



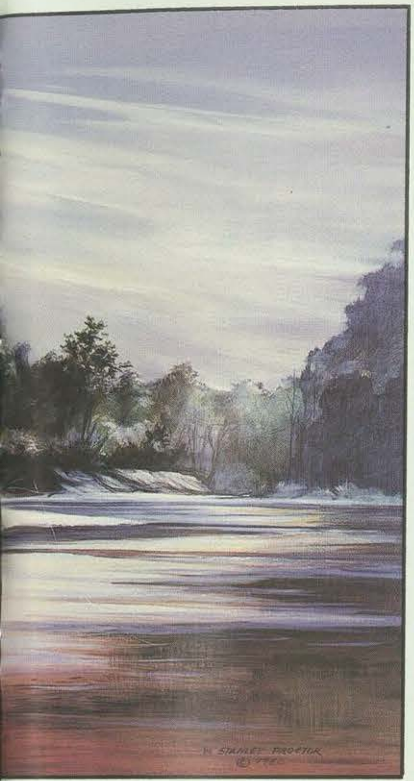
W. Stanley Proctor

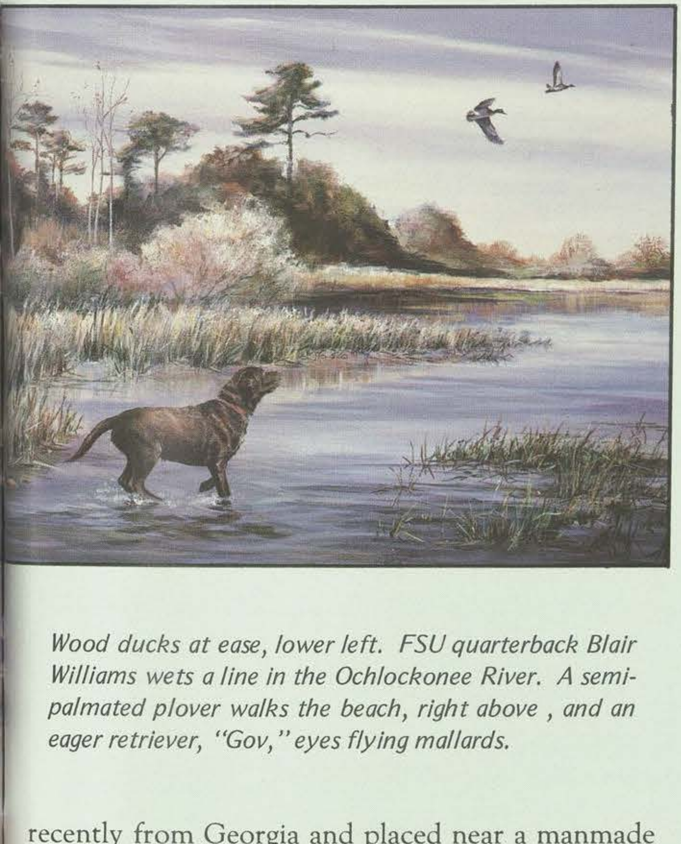


enough for him to specialize as have other artists with limited edition prints. In fact, you would have a hard time finding one of his prints. He has only done two and has no immediate plans for others.

Much of his work is commissions and that's the way he likes it. His ideal, three to four years from now, "if I had my druthers, would be to do 10 commissions a year and four or five of whatever I choose to do, including, say, that old black woman sitting at the store in Metcalf (Ga.) with a lot of details in her socks."

He works at the home he and his wife built overlooking Lake Iamonia in north Leon County. Although in the beginning he converted a storage building into a studio, now he has a very special spot. An old log cabin, built in 1820, was moved recently





Wood ducks at ease, lower left. FSU quarterback Blair Williams wets a line in the Ochlockonee River. A semi-palmated plover walks the beach, right above , and an eager retriever, "Gov," eyes flying mallards.

recently from Georgia and placed near a manmade pond behind the house. Now restored, it serves as Proctor's studio, a place of quiet, away from the noise his three children can generate. Inside, you are likely to find a tumble of things, including mounted wings, pencil sketches, art books and perhaps tubs and tubs of leaves, bark and vegetation for a painting he is working on.

"Sure it's a pain," he said of the greenery, "but it helps. You think you know what a leaf looks like but you'd be surprised."

Also you might find a few clay models, a device Proctor employs, "when I get into trouble, I use them to check shadows or reflections."

And you will find thousands of slides, for he feels the camera, used properly, is an excellent tool.

"A camera is a marvelous sketchbook," Proctor explains, "but it doesn't take the place of drawing. You can't depend upon it any more than you can a mounted bird."

The trouble Proctor takes with his work is reflected in the national as well as local success he has enjoyed. His paintings have been displayed at the Cleveland Museum of Natural History, the Carnegie Museum of Natural History in Pittsburgh and even the British Museum of Natural History. The latter museum displayed what Proctor has called one of his best paintings to date, that of limpkins, endangered birds found along the St. Marks River.

The painting was selected as part of this year's Lehigh Yankey Woodson International Bird Art Exhibition, marking the third consecutive year one of Proctor's works has been part of the prestigious exhibit. His selection marked his acceptance as one of the top bird artists in the country.

But don't let that label him. Proctor is ever searching and changing. Next perhaps, he muses, he will also do some Western art, or even some portraits. □

About 100 of these large animals, originally from India, inhabit northwest Florida's St. Vincent's Island National Wildlife Refuge.

ARISTOTLE'S DEER

By Leslie Ellis

Bill Harper

It is almost midday and the warm summer sun sparkles through the dense forests of St. Vincent's Island National Wildlife Refuge, located off Florida's Panhandle in the northern Gulf of Mexico. The sky is clear, the sun is bright and visibility in the forest is excellent. Because we are seeking the elusive sambar deer, we will need more than perfect weather conditions if we are to be successful—we will also need a good deal of luck. Even though the sambar is among the largest Asian deer, they are so adept at remaining undetected it is easy to overlook one even at close range. But, with some luck, a bit of eye straining and more than a little tenacity, you may spot one.

The earliest written description of the sambar deer was made by the Greek philosopher, Aristotle. Because the South Indian sambar *Cervus unicolor niger* was among the animals introduced into the ancient civilized world by Alexander the Great following his campaign in India, Aristotle did not have to strain his eyes to see the animal. Indeed, as a result of Aristotle's early and faithful description, the Indian sambar became known as "Aristotle's deer."

Cervus unicolor niger stand as high as 58 inches at the shoulder and reach an average weight of 600 pounds. They are usually dark brown with a yellowish to rusty brown color under the chin, inside the limbs, between the buttocks and under the tail. Their hair is coarse and both sexes have a small mane.

Sambar, erroneously referred to as "elk" by British hunters in India because of their size, have a vast geographic distribution. Their natural range varies from Indian thorn forests through both the dry and moist deciduous forests of India's peninsula, to the oak forest foothills of the Himalayas and, occasionally, to altitudes as high as 12,000 feet.

Because of their adaptability to new environments and their suitability for survival in a broad range of climates, Indian sambars have been transported to numerous locales. These on St. Vincent's Island were brought to the refuge in the early part of the century by Dr. Ray V. Pierce who owned the island at the time. Originally, Dr. Pierce imported four deer. Over the years, an estimated herd of several hundred developed but during the 1940s, a rash of illegal hunting occurred and the population dwindled to about 50. Since 1968, with the island a national wildlife refuge, the herd has grown to approximately 100.

In all types of weather, the animal takes readily to the water, swimming with only its head visible above the surface. In their native habitat—dense forests and bamboo jungles—they show a preference for lounging in water and the bucks are especially attracted to wallowing in the mud prior to, as well as during, the rut.

The first stage of the rut of the sambar is marked by a period when social groups are reformed. During this time, the deer suddenly become very active and wander over large areas of forest, moving about even in the middle of the day. During this period, each male delineates his territory and then bellows a challenge to competing stags to come forth and dispute his territorial claim. Females are not actively sought; however, they may be attracted by the stag's scent. Once one enters the male's territory, she stays until the rutting season is over. The buck then leaves the area to resume his solitary existence. Timing of the mating season for the sambar varies with the habitat.

Even though sambar can occasionally be seen during the day, they are primarily nocturnal creatures, foraging in the early morning and evening hours.

In the past, sambar have been threatened by men who used the hides for making shoes; and by anthrax, passed from cattle allowed to graze near the boundaries of the Indian game preserves. Despite these human-induced perils and the inroads of such predators as the leopard, jackal, python, crocodile and tiger, the sambar thrives in various Indian wildlife preserves as well as elsewhere in "new" environments. In addition to several areas of the United States, they have also been introduced into Australia and New Zealand.

Certainly, Alexander the Great introduced to Aristotle a fine specimen of nature to carry the philosopher's name down through the ages. ☐

Typical antler formation is shown in this side-view of sambar stag, left. A sambar pauses in the open to view photographer on St. Vincent visit.

Bill Harper

Wallace Hughes

Patrick's Project

It all started out so innocently. But then, don't most things? Anyway, someone gave the Cain family of Dade City a gopher tortoise found on the side of the road. The family turned it loose in the backyard, it dug a burrow and stayed.

That was some four years and a lot of burrows ago. The backyard at the Cain's home has never quite been the same since. Today, it provides some 2,000 square feet of fenced ground which houses not only a pool and deck but also, in one corner, an awful lot of "gopher holes."

Since that first gopher, the Cain family has taken an avid interest in the study of *Gopherus polyphemus*, one of the state's species of special concern. But although the whole family is interested, it is young Patrick who turned the interest into an award-winning science project.

During 1981 Patrick's project ("*Gopherus polyphemus*: a threatened species. Survival by reproduction in a captive environment") won school, region, state and international competition. He represented the region at the Milwaukee, Wisconsin International Science and Engineering Fair last May. He received the Kodak award for photography at both the regional and international competition and was selected as the Navy first runner-up to the London Science Symposium.

Newspaper accounts of Patrick's study of the gopher attracted the attention of a biologist with the Game and Fresh Water Fish Commission. Joan Diemer had just been hired by the agency's Bureau of Wildlife Research to work on this species. She was interested in what the young student had discovered.

Gopher tortoises are very shy by nature and information on their daily habits and reproductive activities is hard to come by in the wild. Patrick, however, had been able to document courtship and reproductive activity in his own backyard. Perhaps, the biologist felt, some of the data he had gathered could be used to verify that of gophers in a non-captive environment.

"It was obvious that the Cains had made a commitment to not only gain a maximum amount of knowledge, but also to provide for the welfare of the captive specimens," said Diemer who has spent time at the Cain's home observing the gopher tortoises.

Patrick has been able to capture, on film, not only the courtship ritual of the gophers but the laying of clutches of eggs and the hatching of the juveniles. Although the success rate has varied, this past year has been good for little gophers with some 30-plus hatchlings now seeing the light of day at the Cains.

It would be hard to visit the Cains without spending part of the time out in the backyard with the gophers. Bebe Cain, Patrick's mother, appears to be just as fascinated by the animals as her son as she takes you on a tour of the grounds.

It's a hot summer day and the gophers are in their burrows, reluctant to come out in the heat. However, Patrick explains that there are a couple of ways to coax them out. The first attempt is turning on the lawn sprinklers. When this fails, the next attempt is successful. It involves getting bananas and dangling the yellow fruit outside the burrows.

Within seconds, the ground erupts as one by one the gophers stretch long necks out of the burrows and grab at the fruit. Tentatively they emerge and chow down on the bananas.

Gophers are drawn to bright colors in food, Diemer explains, including bright red and pinks. Mrs. Cain backs up that statement with her own observation.

"I have to be careful walking out here if I have painted toenails," she said. "They seem to think my red toenails are food and go for them."

To the unfamiliar, the gophers all look alike but

Shy by nature with a face only Mom could love, gophers can be tempted out for a banana. Patrick Cain, with hatchling below, turned backyard into a science project. Gopher heads to his hole, far right.

Photos by Trisha Spillan

By Trisha Spillan

PATRICK'S PROJECT

Patrick and his mother can identify each and every one by name. There's Confucius, Rameses, Anastasia, to name a few. Sex identification is a little more difficult, explains Diemer, as she turns over a pair and outlines the differences on their shells.

Being with the gophers on a daily basis the Cains have been able to observe a lot, including the precautions they take when it rains. If it is overcast and about to pour, the gophers go into their burrows and back up, almost building a little dam of earth to keep the water out.

The burrows stretch under the earth for 6-12 feet; the width corresponds to the size of the gopher making it. They make it just wide enough so they can turn around in it. It is on the apron of the burrows that the eggs are laid in the late spring.

It takes about 90 days for the eggs to hatch with the average clutch between five and seven. Confucius laid 10 in 1980 but only three in 1981; obviously this he was a she. Patrick has noted that most eggs are laid in the late evening and covered with a dirt mound. If the eggs are disturbed and moved out of position, they will not hatch, a fact Patrick learned through experience during the early years of studying the gophers.

Hatchling gopher tortoises are tiny things, resembling the dime-store variety turtles many children have for pets. The Cains have a special area reserved for the young where they are fed and a close eye kept on them.

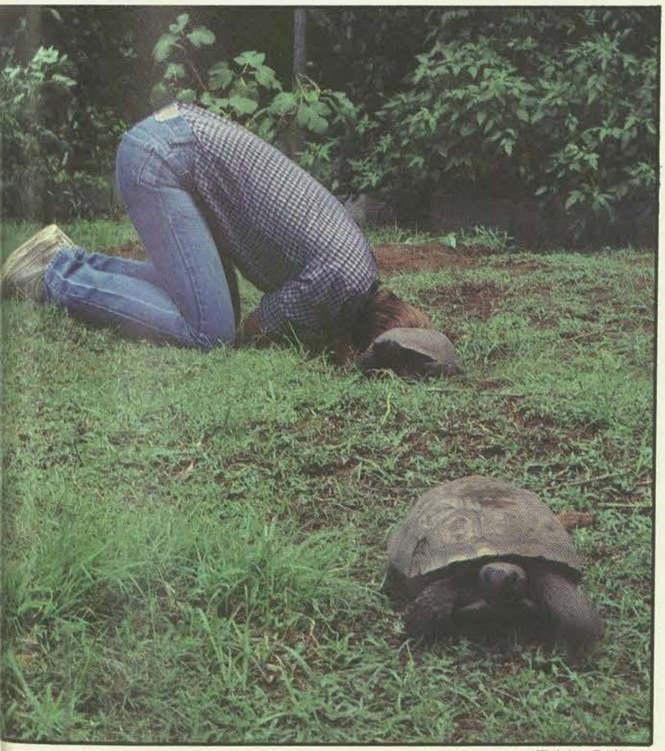
Amusing as it is to watch the antics of the gopher tortoises, according to Diemer, this species may be in trouble. Listed as a species of special concern, it appears that the species is steadily declining, not only from loss of habitat but also possible overexploitation as a food source in some rural areas.

A study done by Walter Auffenberg and Richard Franz of the Florida State Museum at the University of Florida reported that agriculture and timber industries have also played a part in the tortoise's decline. Certain timber practices have modified the dry ridges that gopher tortoises use in such a manner as to be unconducive for tortoise use. On horse and cattle ranches, the tortoises are considered pests and removed. These practices, the report said, have resulted in a reduction of the "original standing crop of gopher tortoises by approximately 80 percent in the last 100 years. Additionally, estimates for the future in Florida suggest that 70 percent of the remaining gopher tortoise habitat will be lost to similar activities by the year 2000 and by 2025

Mature gopher, below, starts out as tiny dime-store size in photo top right. If the gopher won't come to you, you go to it, as Patrick does opposite page.

Joan Diemer

Trisha Spillan



Trisha Spillan

virtually all the existing tortoise habitat will be destroyed."

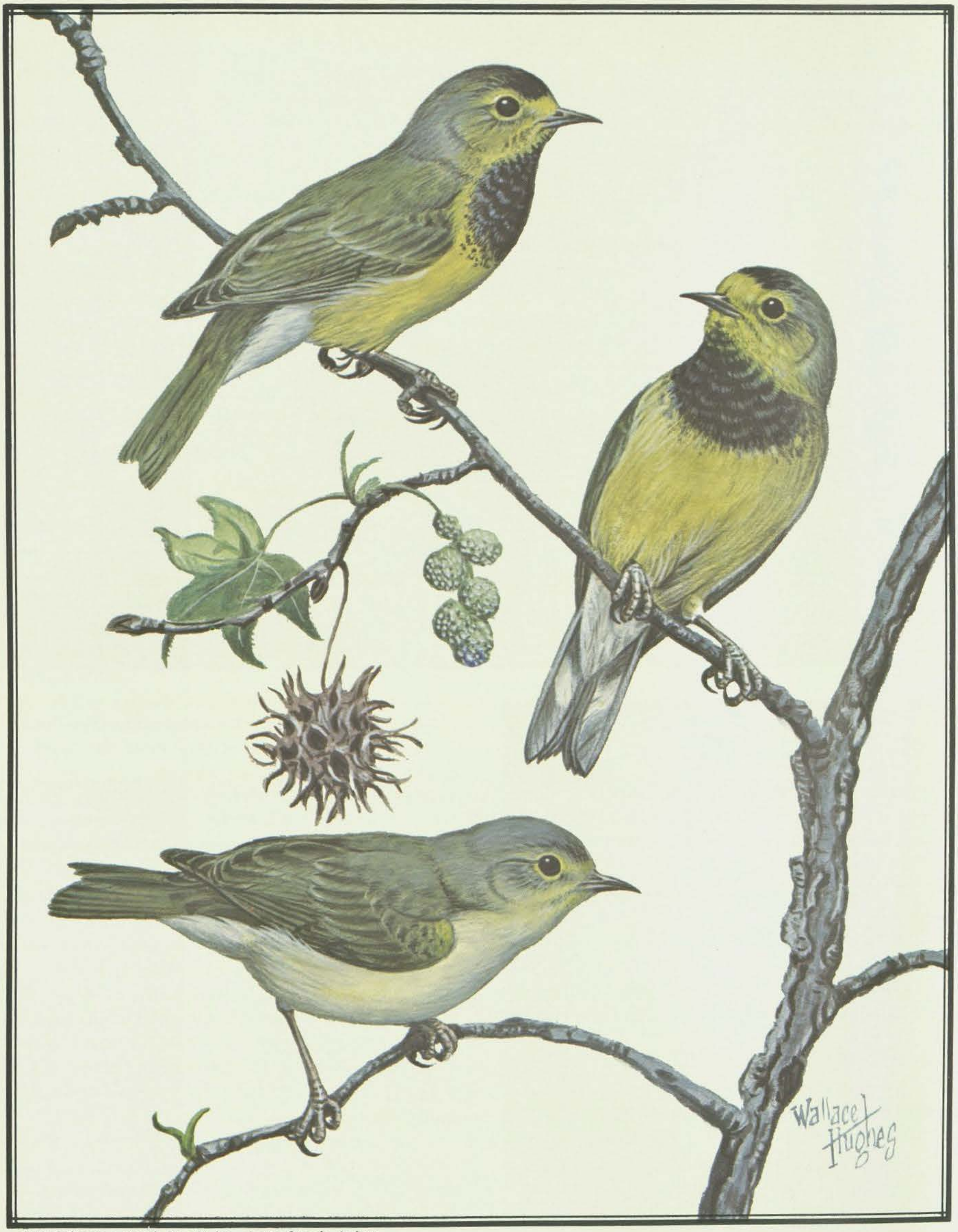
In Florida, the gopher tortoise is harvested on a limited basis from July 1 through March 31 with a possession limit of five. This harvest is just one of the areas that Diemer is interested in as she takes a detailed look at the gopher tortoise.

"I am interested in what effect the harvest has on the population as well as gaining some insight into the population dynamics of the species," the biologist said.

To accomplish this she is utilizing a wide variety of techniques. Questionnaires and interviews of biologists, wildlife officers and tortoise harvesters provide information on levels and methods of harvest. A simulated harvest is being conducted on a specific population so that the impacts of tortoise removal may be studied. Additionally, a computer population model has been developed to organize data on gopher tortoise population dynamics and to identify gaps in available knowledge.

"Things don't happen fast in the tortoise world," Diemer said. "I wish I could say that I would have the answers to the questions by this time next year or in two years or even in four. But tortoises are unlike most other game species. We don't know how long it will take for them to react to modifications and changes."

However long it takes though, the Commission is committed to doing whatever is possible to ensure the continued survival of the gopher tortoise. □



Approximate natural size: Males, above; female, below

Bachman's Warbler

. . . rarest North American bird ?

Bachman's warbler may be the rarest North American bird—if indeed it really still exists. Since its discovery in 1832, few field workers have had extensive experience with it, and perhaps no person today can claim such a distinction. As a natural consequence, a number of false impressions have been entertained and outright errors recorded about the bird. I hope this article will clear up some of these misunderstandings.

The name of this species derives from that of the Lutheran minister, the Rev. John Bachman, who first discovered and collected the bird and sent the specimen to his friend, John James Audubon, so a proper scientific description could be made. Already we confront two misconceptions. As some naturalists in Charleston have discovered recently, the first specimen was collected in 1832, not 1833, and the site was the Edisto River, South Carolina, not "near Charleston." It has been assumed that the bird was obtained in the Francis Marion National Forest just north of Charleston, but the Edisto River is located about 30 miles to the southwest.

Much has been made of the fact that the species was not seen for 53 years after a second specimen had been collected in 1833. It does seem remarkable, in the light of the large numbers seen and collected near the end of the century, that the bird did not come to someone's attention again until 1886. Thus, on the face of its known early history, one might well assume that its population was subject to drastic peaks and valleys until about 1900. Some writers have stated that because it returned from near extinction in the 1800s, it might do so again in the present century. But was it really close to extinction at that time? Might there not be other explanations for its seemingly violent fluctuations in abundance? I believe so.

The former breeding range of Bachman's warbler extended from southeastern Missouri, southern Kentucky and the Dismal Swamp of Virginia southward to central Alabama and near Savannah, Georgia. It was never suspected of breeding in Florida and, with one possible exception, it did not winter in Florida. Therefore, records could have been expected only when it was passing to and from its winter home in Cuba and the Isle of Pines. During its period of abundance (late 1800s to early 1900s), it was a rather common migrant in parts of Florida. In his excellent account of Florida's ornithological history in *Florida Bird Life* (1932), Arthur Howell mentioned the names and itineraries of all naturalists known to have visited the state since Audubon did (1831-32). Some were here only in winter, some worked in the southern and eastern parts of the state, and most worked in open places looking for large land birds, water birds and Florida "specialities," not in the densely wooded habitats of this denizen of swamps. But the record of Bachman's warbler in Florida shows few spring records from southern and eastern Florida, with far more from the Suwannee River northward. In the southward migration, few were recorded on any part of the mainland, but many were collected and others seen at Key West. The scarcity in south Florida in spring is hardly surprising since an overnight flight from Cuba or the Isle of Pines could easily carry them farther north. Indeed, most south Florida spring records were of birds that collided with a lighthouse on just such a flight. But were there Bachman's warblers in Cuba during those lean years? Apparently so. In his book on North American warblers, Frank Chapman prefaced his mention of the 53-year lapse of records with the phrase, "With the exception of its occurrence in Cuba...."

If early workers did not try in the right times and places in Florida, what happened in all the other states where the species has been found? A search through historical accounts or bibliographies in state bird books of South Carolina, Georgia, Alabama, Louisiana, Arkansas and Kentucky revealed that far fewer naturalists worked in those states than in Florida between 1833 and 1886. Of course, the fact that even Bachman apparently found no more of his warblers during his remaining 40 years in Charleston is puzzling. The population of the bird probably was down at that time, but by how much we can only estimate.

The first record of Bachman's warbler after this long drought was one collected near the opposite edge of its range—in southern Louisiana. A millinery collector, Charles Galbraith, obtained it in the spring of 1886, and it suffered the temporary ignominy of being mounted for a hat piece. Fortunately for science, it was retrieved for the American Museum of Natural History and later has found its way to the Tall Timbers Research Station. This new occurrence, however, was no fluke. Galbraith saw more of these warblers in Louisiana during the next five years; many struck Sombrero Light off south Florida, 1887-89; J.W. Atkins collected about 70 of 150 or more seen at Key West, 1888-89; and Frank Chapman and William Brewster found about as many and collected 46 along the lower Suwannee River in March 1890. Also, Arthur Wayne collected more than 50 and saw many additional individuals in the Suwannee River bottoms, 1892-94. But why

By Henry M. Stevenson

such a spectacular leap from famine to feast? Had earlier workers visited the lower Suwannee River in early spring or lived at Key West in late summer? Had lighthouse keepers, prior to Spencer's efforts beginning in 1884, bothered to retrieve and send off these victims of fatal collisions? The likely answer is "no."

Following this plethora of records, Bachman's warbler has gone through a long, though perhaps not steady, decline. During the early years when Wayne worked near Charleston (1900-10), it was still common and Wayne found many nests. At least in that part of its range, it had decreased by the 1920s, at which time Wayne and Alexander Sprunt Jr. were unable to locate even one bird. No records were published during this period in Florida or Alabama, but a few individuals were seen in the 1920s and 1930s in other states, and Lewis Golsan's unpublished field notes indicate some persisting in Bear Swamp, Alabama, until 1928.

My experience with Bachman's warbler is limited to Alabama and began when I located a singing bird near Birmingham in April 1936. It inhabited a small swamp for only a few days then left, presumably for better breeding grounds. On the same date the following year, I found one in breeding habitat in Moody Swamp, near Tuscaloosa. Four weeks later I returned with Harry Wheeler and found a nest of small young. This corrects published articles which have stated more than once that the last nest was found in 1920, not 1937.

Again in the spring of 1939 I had opportunities to visit Moody Swamp and in March and early April found several Bachman's warblers. The sight of one male displaying at close range has been a most rewarding lifelong memory. But the song period had apparently ended before I could return to the swamp. My only other record was a singing male in Bear Swamp, near Autaugaville in May 1937, when Wheeler and Roland Harper were with me.

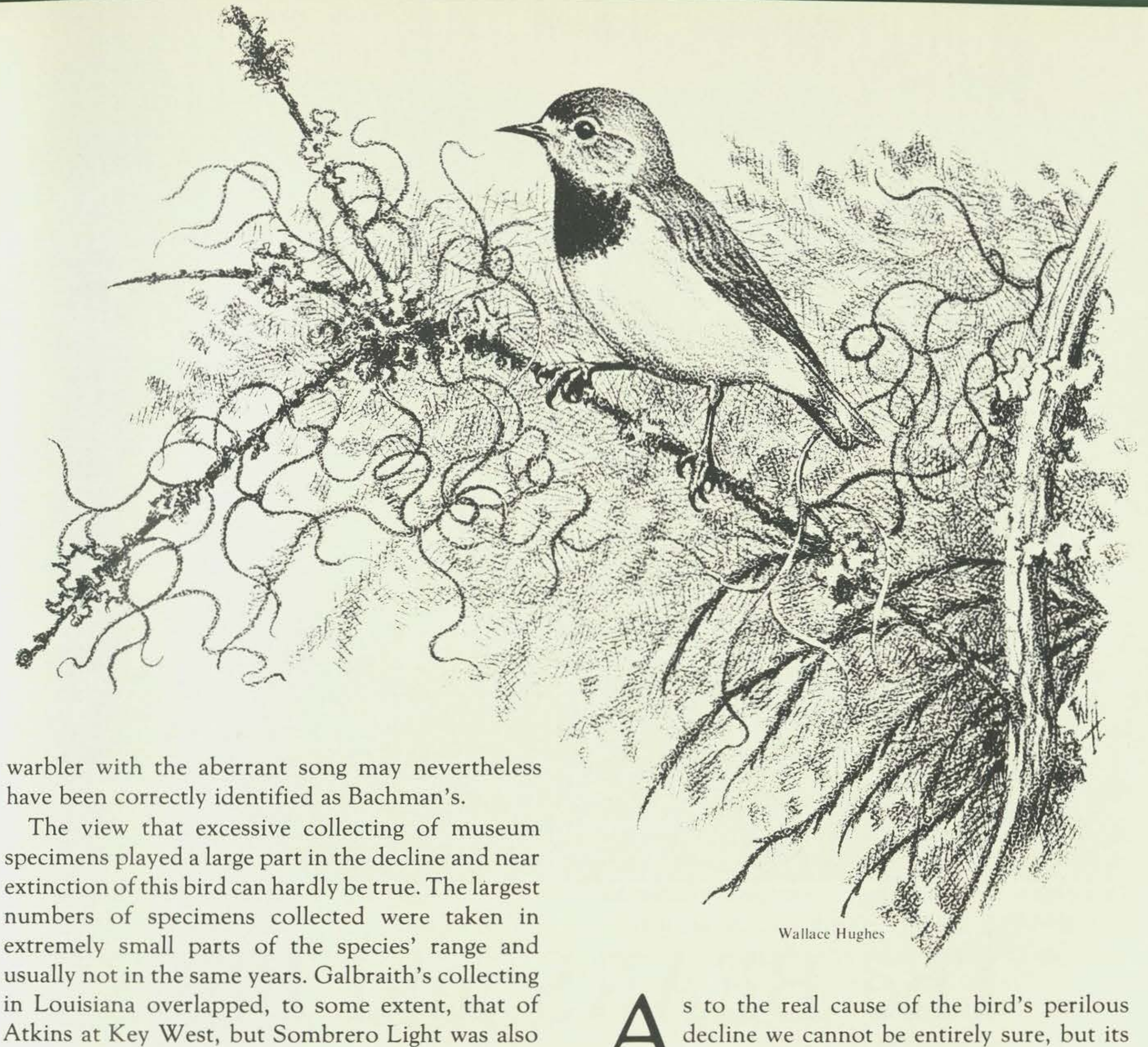
Contrary to some paintings of female Bachman's warblers, one or two that I saw were virtually devoid of yellow underneath. Moreover, descriptions sometimes mention black on the head and throat of females (as is always true of males), but I have heard the view expressed that such specimens were incorrectly sexed when the skin was prepared. I tend to doubt that the eminent ornithologists of those days would make such a mistake when the sex glands were enlarged during the breeding season, but errors might creep in when examining fall specimens under poor magnification.

Within the past few years, Paul Hamel of Clemson University made a careful study of the nesting ecology of Bachman's warbler, necessarily using field notes of Wayne and others. His conclusion is the bird requires openings in swamps for breeding sites, rather than its textbook habitat of deep, unbroken swamps. My limited experience tends to corroborate that view but others who have studied Wayne's field notes are not in agreement with Hamel.

One ornithologist with whom I discussed the scarcity of this species in the 1950s opined that it probably was not truly rare but merely overlooked in the hordes of other small woodland birds that pass through in spring. By the same token, he held that the large numbers recorded by Chapman and Brewster on the lower Suwannee River were located only by diligent searching. Those two eminent ornithologists ranked the abundance of small woodland birds found on that 1890 trip, and Bachman's warbler was ranked seventh—more numerous than the orange-crowned warbler and the red-eyed, solitary and yellow-throated vireos. The six species they found in greater numbers than Bachman's were the Northern parula (parula warbler), myrtle, black-and-white, and yellow-throated warblers, the blue-gray gnatcatcher and the ruby-crowned kinglet. That situation has changed drastically in the decades following. Despite the many thousands of migratory birds felled annually by television towers, I am not aware of one Bachman's warbler among them. A published record of three at Tallahassee's WCTV tower referred to Bachman's *sparrows* and was later corrected.

Some birders, noting the large numbers of Bachman's warblers recorded on the Florida mainland in spring and at Key West in the fall, have speculated a narrow migration pathway. Early ornithologists spent much more time in Florida than in other Southeastern states. Galbraith's many records in Louisiana illustrate the fact that a large proportion of the bird's spring migration passed hundreds of miles west of Florida. Even the numerous records of southbound birds at Key West may represent those that cut across the eastern Gulf of Mexico, as birds flying down the peninsula would have to veer to the west to reach this outermost key.

There are few recordings of the bird's song and one sounds unlike any member of that species I have ever heard. On the contrary, the written descriptions of the song as an unmusical trill on one pitch, similar to those of the chipping sparrow and the worm-eating warbler, correspond with my impressions. It is known, though, that many species of warblers have at least two songs, so the



Wallace Hughes

warbler with the aberrant song may nevertheless have been correctly identified as Bachman's.

The view that excessive collecting of museum specimens played a large part in the decline and near extinction of this bird can hardly be true. The largest numbers of specimens collected were taken in extremely small parts of the species' range and usually not in the same years. Galbraith's collecting in Louisiana overlapped, to some extent, that of Atkins at Key West, but Sombrero Light was also collecting many during those same years (1887-89). The Chapman-Brewster collections on the Suwannee River came a year later, and Wayne's collecting there was still later (1892-93). All of these birds were migrants and represented but a very small sample of the total flying over a broad front between Louisiana and Florida. Summering birds were collected near Charleston after 1900, but this was in only a small part of the species' total breeding range. Of these small samples, the numbers collected amounted to about one-third of the total seen, and that number must have been substantially less than the number present. After any one year from about 1887 to 1893, when collecting was heaviest, it seems likely that more than 90 percent of the total population survived. Any hunter knows that game birds can sustain a far heavier annual harvest than this without a reduction in the population 12 months later. For that matter, my work in Moody Swamp indicated that Bachman's warbler was not truly rare even near the end of the 1930s, yet almost no specimens have been taken in the United States since 1920, and not very many in Cuba.

As to the real cause of the bird's perilous decline we cannot be entirely sure, but its most recent decline began in the 1940s. I have found only 19 published records for the 1950s, 11 for the 1960s, and so few in the 1970s that I have doubts about their accuracy. Not only have no nests been found over this period, but there seems to be no record of a mated pair. Some attribute this latest decline to the draining of swamps. Draining any swamp they occupied would be disastrous to the birds, but many swamps within the species' breeding range have not been drained, and this is true on its wintering grounds in Cuba and the Isle of Pines. Felling timber in swamps without draining may not be so detrimental and, in fact, could be useful in some instances by creating better nesting habitat. Finally, we are faced with the fact that whatever we have done to the swamps that wreaked havoc to Bachman's warbler has done little if anything to the healthy populations of Swainson's warbler, a species that is almost equally associated with swamps.

The extinction of species is a process that antedated modern man by millions of years. Quite possibly, Bachman's warbler would have disappeared at about the same time if man were not here. ☐

The problem—bee yard damaged by honey-hungry black bear.

James Brady

The BEARS and BEES

SEEKING A SOLUTION

Once he roamed the forest lands of primeval North America from Alaska to Labrador and southward into Mexico and south Florida. A massive creature possessed of tremendous strength, he was worshipped by some native American cultures and utilized for food and clothing by others.

The black bear no longer roams as he once did, his range and numbers in the lower 48 states are greatly reduced. Today, he is viewed by modern society as a prized game species, a valuable component of our wild lands, a nuisance or a fictional character in a children's story. However he is viewed, he possesses certain unique characteristics which might be seen as cute or humorous. Perhaps the best known of these is his taste for honey. But there is at least one group of people who don't think his sweet tooth is very funny and that's the beekeepers.

Florida not only has the most widespread population of black bears in the Southeast, but is also the number one beekeeping state in the country. Besides supporting numerous resident beekeepers year-round, our mild winters attract thousands of Canadian and mid-West beekeepers. During 1980-81, nearly 125,000 colonies of bees were picked up and moved into Florida to feed during nectar flows in the orange groves while their summer foraging grounds thawed back home.

Unfortunately, the best bee pasture is also good bear habitat. Increased pressure on these lands by beekeepers as well as expanding urbanization and land development have resulted in a corresponding increase in black bear/beekeeper conflicts. These conflicts can be costly to beekeepers in lost production and equipment and to bears in an often swift and terminal punishment. Therefore, it is in the best interests of both to minimize bear damage to beehives.

An apparent increase in the number of nuisance bear complaints over the past few years prompted the Game and Fresh Water Fish Commission's Bureau of Wildlife Research to take a closer look. The first step was to learn more about the bear-beekeeper conflict through a mail survey of the state's nearly 2,000 beekeepers.

Results substantiated the Commission's understanding of bear distribution. Of the 67 counties, 41 indicated some bear depredation problems with Lake, Collier, Volusia and Liberty counties having the greatest, all four being in black bear abundance centers.

Unlike their counterparts in the north, Florida black bears do not necessarily "den up" in the winter and may remain active year-round. The result is potential bear trouble at bee yards during any month. This is particularly evident in south Florida where the survey showed problems at a constant rate all year. The rest of the state, however, followed a pattern similar to the northern states with disturbances low from late summer to early spring. Then a dramatic increase occurs, reaching its peak in May. This increase happens when bears become more active after several months of low food availability. It also coincides with the flowering and nectar flows of several important honey plants such as gallberry, tupelo and cabbage palm. This flowering brings beekeepers to flatwoods and swampland bear habitats at the same time bears are most active.

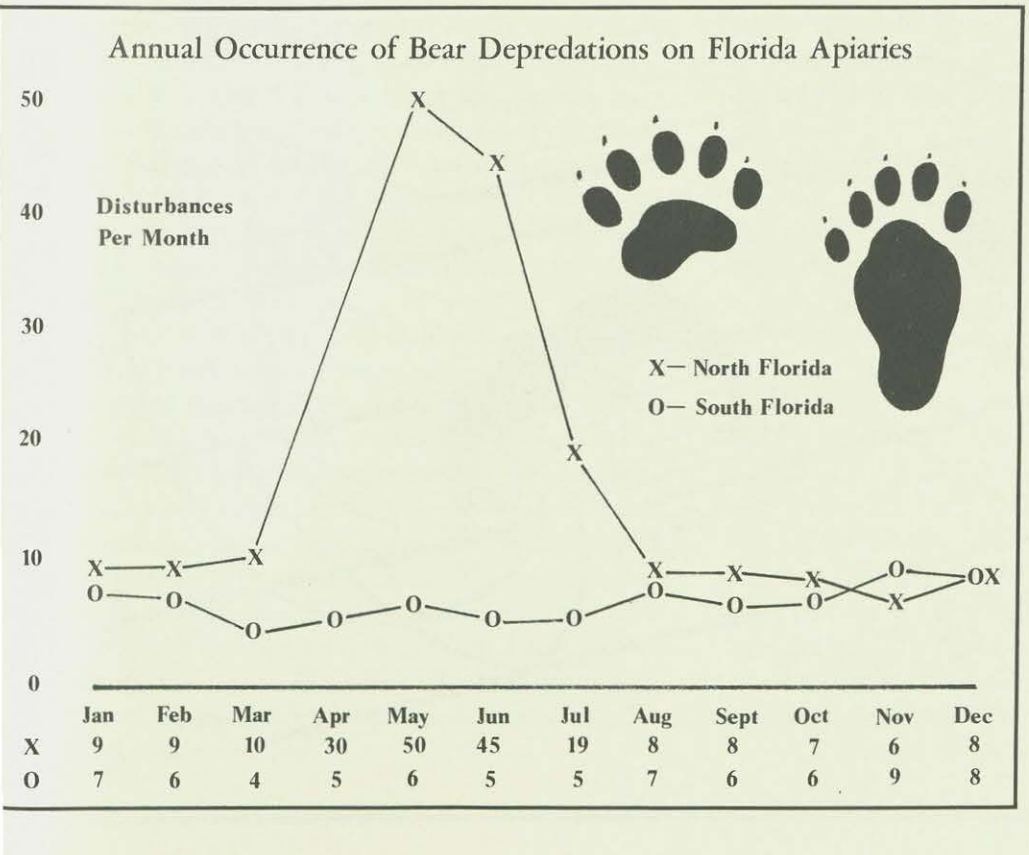
Despite the variety of methods employed by beekeepers, losses to bears are estimated conservatively at $100,000 annually. According to the survey, some beekeepers admittedly use no protective devices at all, while others use raised platforms; move their bees out of bear habitat when necessary or illegally kill the bear. Some respondents reported using unique repellent techniques such as leaving dogs in or around the apiary, playing loud radios, leaving lion dung, sweaty clothes or moth balls around the hives.

But whatever the method tried, one that has been used most for nearly half a century and apparently is the most successful insurance against apiary-raiding bears is the electric fence.

The effectiveness of the electric fence was further reinforced last spring when the Commission's Divisions of Wildlife and Law Enforcement conducted a nuisance bear study in the Apalachicola National Forest. Beekeepers in certain areas were required to erect electric fences around their bee yards while in other areas fences were not required. By noting whether a damaged yard was fenced or unfenced, a pattern emerged. Data indicated there was a 70 percent greater probability of bear damage among unfenced yards than among fenced yards. This difference would have been even greater if all the fences had been property constructed and consistently maintained because those that were experienced no damage.

Maintenance, therefore, appears to be the key word for proper electric fence use. Although there

David Maehr



By
David Maehr,
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Wildlife Research Laboratory
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Jack Polk
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Panama City

are probably as many fence designs as there are beekeepers using them, all successful fences have a fully charged battery and wires clear of vegetation which might short the circuit. This was proven nearly 20 years ago when Dr. Frank Robinson of the University of Florida operated 40 colonies in bear habitat for two years without a single loss.

But even with the best and most carefully maintained electric fence, from time to time individual black bears can manage to get to the hives. The Apalachicola study provided a chance to test a new method of dealing with these particularly difficult bears. They were trapped at the apiary, immobilized with drugs, tagged and released. The trauma of being trapped and handled, it was hoped, would discourage bears from returning.

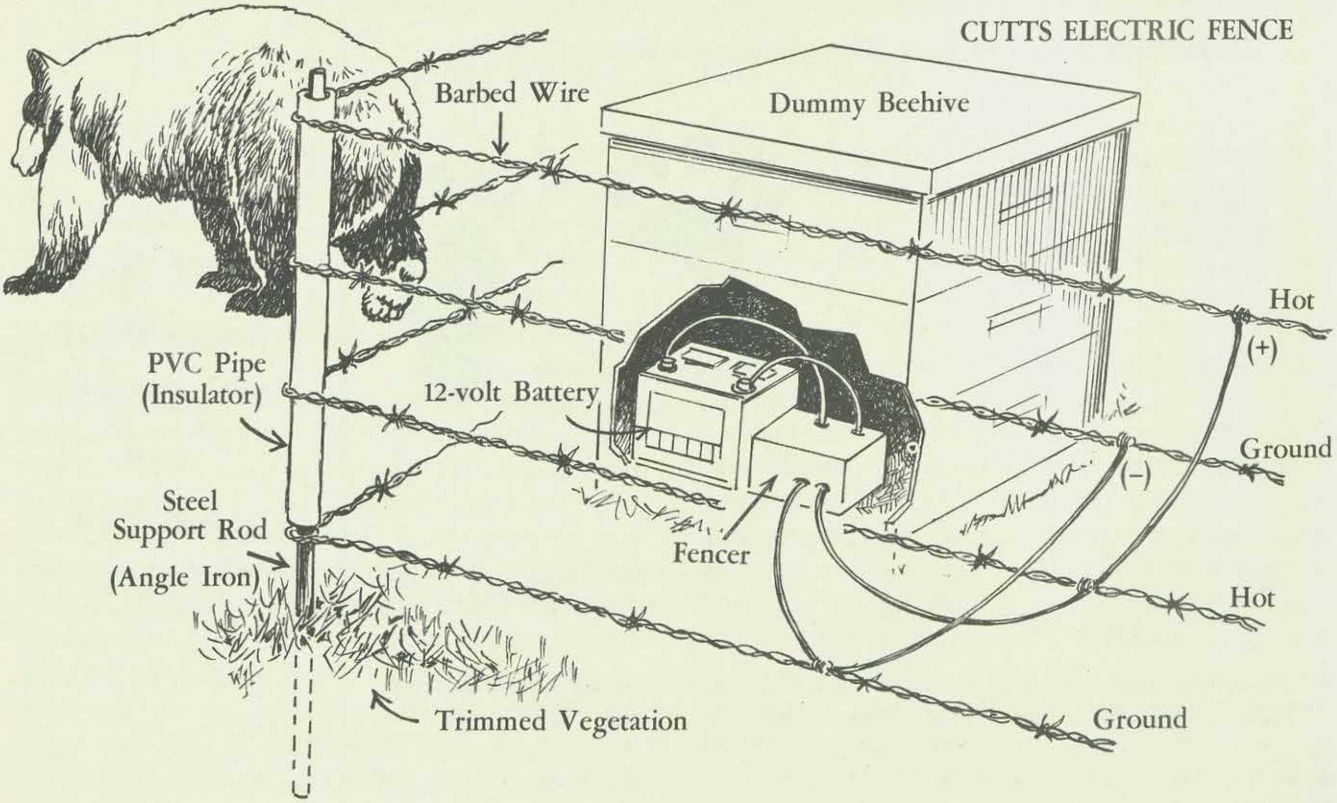
The results were encouraging; of the nine bears captured, none returned to the same apiary. Only one was recaptured and that was a juvenile that invaded another bee yard eight miles away and nine days after its first capture. This new method of dealing with persistent bears could prove an alternative to killing or relocating bears who learn how to negotiate electric fences.

Clearly the old adage, "An ounce of prevention is worth a pound of cure," is particularly true in this situation. Killing or relocating nuisance bears are methods of the past. Although they can halt damage done by a particular bear, they are expensive and must be repeated if the apiary is within range of other bears. In addition, removing bears from their normal habitat is contrary to the general objectives of the Commission. But if beekeepers operating apiaries in known bear habitat would protect their hives with electric fences, the vast majority of bear-related damage could be prevented. The cost of an electric fence to protect an apiary (about $150) is easily offset by the production of hives saved from marauding bears.

The Commission's primary concern is the welfare of the black bear. However, it recognizes the importance of beekeeping in the state and feels it should share the burden of minimizing bear/beekeeper conflicts. In each region, Commission biologists are prepared to assist beekeepers in dealing with black bears. Information is available on the occurrence of bears and electric fence construction. These personnel are also prepared to trap nuisance bears if the situation warrants.

In the meantime, researchers will continue to seek new methods of protecting apiaries. But the success of the current program depends on beekeepers' willingness to cooperate with the Commission by preventing bear problems before they occur. These efforts will pay off in the coming years by the continued use and enjoyment of Florida's woodland habitats by the bear and beekeeper alike. ☐

CUTTS ELECTRIC FENCE



Protect Your Hearing

If you've ever heard a ringing in your ears after firing a rifle or shotgun, please listen up. Your ears are trying to tell you something.

Ringing in the ears is a signal you are subjecting yourself to potentially damaging sound levels. Numerous tests conducted over the past 30 years have revealed that continued exposure to gunfire can cause gradual—and permanent—hearing damage. The ringing will go away. The damage will not.

Scientists measure sound levels in terms of decibels. The softest sound which the average person can hear is about one decibel. Normal conversation is 50-70 decibels, and hearing loss will result from continuous exposure to sound levels around 130 decibels. Most gunfire is louder than this 130-decibel level.

At the U.S. Army Proving Grounds in Aberdeen, Maryland, peak sound-pressure levels produced by the firing of various rifles were measured at 160 to 172.5 decibels. A major firearms manufacturer measured a 12-gauge shotgun report at 140 decibels. Handguns and other short-barreled firearms, even those of small caliber, produce an unexpectedly loud (sharp) report. For example, while the peak sound-pressure level from a .22 rifle measured out at 130 decibels (the measurement was taken 2 feet to one side of the muzzle), a .22 pistol delivered a whopping 153 decibels. Both these levels are damaging but the pistol is much more so.

The repetitious firing on skeet, trap and target ranges probably produces the most damage, and often the loudest round reaching the shooter's ears comes not from his gun but from the nearby man doing the shooting. This fact should be a warning to all observers, even those who merely throw clay pigeons. Under these circumstances, there are no excuses for not wearing hearing protectors.

There are several different types of hearing protection. Some are better than others. All are better than nothing.

The plug-type is inexpensive and, when inserted tightly enough to produce a seal, they may reduce the noise by 30 decibels in the important frequencies. For example, a plug wearer will hear 140-decibel noise at only 110 decibels. This reduction is adequate for most purposes.

Disposable plugs of cotton impregnated with wax are one alternative to rubber ear plugs and are about equally effective. Here again, an airtight fit is necessary. Another alternative is a soft mold of silicone rubber that is custom-made to fit the individual shooter's ear exactly.

The most effective of all practical protectors are the muff-type devices worn by some airline ground crews. These muffs reflect sound off their hard outer shell and muffle sound inside via sponge rubber and a "dead air" space. They afford 30- to 45-decibel attenuation (noise reduction) when fitted tightly to the head.

Serious firearms enthusiasts who have started wearing muffs often notice their marksmanship scores have improved. They reason the muffs helped them overcome a natural avoidance reaction to the ear pain produced by shooting. The routine use of hearing protectors is certainly less of an annoyance than the ringing in the ears—not to mention the hearing loss—the muffs prevent.

Don't damage your hearing by subjecting your ears to unnecessarily high sound levels. Protect your ears and make your shooting more enjoyable with one of the several available forms of hearing protectors.

A 12-page booklet highlighting the importance of hearing protection and numerous other aspects of firearms safety is available for only 25¢ from the National Shooting Sports Foundation, 1075 Post Road, Riverside, CT 06878. ☐

Lands For Wildlife And Outdoor Recreation

Georgia-Pacific

Recently the Game and Fresh Water Fish Commission recognized private landholders by a Proclamation of Appreciation for their provision of almost one and one-half million acres of land for public recreation through the Type I Wildlife Management Area Program. Twenty-one percent of this land is provided by Georgia-Pacific Corporation (G-P). Major portions of the Fort McCoy and Steinhatchee wildlife management areas are G-P lands and all of Gulf Hammock, Georgia-Pacific and Relay belong to the company.

G-P controls 545,000 acres of timberland in Florida. The primary objective is growing trees as raw material for the manufacture of a variety of products. This includes such items as paper towels, sacks and bags, corrugated containers, tissues, furniture, panelboard, hardboard, particle board, lumber, plywood, gypsum board, plastic products and household, swimming pool and industrial chemicals. One of the largest paper mills in the South is the G-P facility in Palatka. The mill and supporting timberlands became a part of G-P in 1979 when they were purchased from the Hudson Pulp and Paper Corporation.

Included in that transfer was the Rice Creek Sanctuary, established by Hudson in 1970, to preserve a unique historic and scenic area. G-P has continued to maintain and protect the sanctuary located six miles west of Palatka, on State Road 100. On this site, a large number of British Loyalists from Georgia and the Carolinas attempted to create an agricultural plantation economy during the Revolutionary War. Today, a tree-shaded picnic ground connects with nature trails threading through woodlands and swamps where rice and indigo once held the hopes of refugees from the ravages of war to the North. A portion of the Florida Trail also passes through the area. The trail is an ambitious undertaking that one day may provide a hiking path from the Everglades into the panhandle of west Florida. The Rice Creek Sanctuary continues as a working portion of G-P's holdings; even while it furnishes recreation for numerous visitors, it is growing trees for the company.

Seven thousand acres of marsh and coastal wetland in Levy County were given to the state by G-P in 1971. Later the company sold the state 19,000 acres of adjoining land located in Gulf Hammock. This acreage makes up the Waccasassa Bay State Preserve, stretching 20 miles along the Gulf Coast in the vicinity of Cedar Key. It is an important nesting area for many species of birds and a spawning ground for numerous kinds of fish.

In addition to contributing to the preservation and protection of historically and biologically important lands, G-P provides a substantial portion of the lands currently enrolled in the Commission's wildlife management area program. As a matter of fact, G-P is third in acreage committed among the 17 companies and individuals involved.

In 1948, Gulf Hammock became the first wildlife management area to be leased by the Commission from a private landowner. The area is well known for its deer, squirrel, turkey and wild hog hunting. It provides approximately 31,000 man-days of hunting and other recreation each year.

Steinhatchee, located in Dixie and Lafayette counties, is one of the largest management areas encompassing some 379,000 acres, of which G-P owns 57 percent. The area lies generally south of the town of Mayo between the Suwannee and Steinhatchee rivers and reaches south to the Gulf. The wide variety of terrain, ranging from salt marsh and freshwater wetland to upland oak hammocks, provides important habitats for many species of fish and wildlife. While this area plays an important role in the local economy by providing wood products-related jobs, it also gives untold thousands of hours of public recreation in salt- and freshwater fishing, hunting, boating, canoeing, exploring, hiking and the like.

Three G-P areas located in central Florida are also important in the state's recreation picture. The largest of these is Relay Wildlife Management Area in Flagler County, a few miles south of Bunnell. Relay covers 25,463 acres and is primarily pine-palmetto flatwoods broken up by creek bottom hardwoods. Relay provides about 6,000 man-days of hunting and camping each year. The primary species sought are deer, turkey and squirrel. A semi-developed primitive campsite is maintained on the area by the company.

Surrounding the small town of Fort McCoy in

Marion County is the Fort McCoy Wildlife Management Area. G-P owns most of its 16,000 acres. Fort McCoy contains several habitat types, ranging from the wet Gooskie Prairie and pine-palmetto flatwoods to creek bottom hardwoods and small scattered hammocks and ponds. This area supplies about 6,000 man-days of hunting each year for deer, turkey, squirrel and duck. Fishing and frogging are also popular pursuits on the area.

The Georgia-Pacific Wildlife Management Area is located in Putnam County, seven miles west of Palatka and adjoining the company's Rice Creek Sanctuary. Formerly called Hudson Wildlife Management Area, it covers 8,225 acres of pine-palmetto woods with cypress and hardwood bottoms. Much of Nine Mile Swamp, which makes up the headwaters of Rice Creek, is located on the area. Good deer, turkey, wild hog and squirrel hunting are found here. Hunting use amounts to about 2,000 man-days per season.

While G-P uses these lands for forest production, the value of wildlife and outdoor recreation are acknowledged. For this, the public owes a substantial debt of gratitude. Therefore, it behooves outdoor recreationists to conduct themselves accordingly while enjoying the management areas.

Flagrant disrespect by a few, reflected by vandalism, trash dumping, littering, destruction of fences, gates and equipment is a problem which should concern all. Everyone, not only the guilty few, would be locked out if the situation should ever get so bad the landowner felt compelled to bar the gates.

I am sure I speak for the true sportsmen of Florida when I say many thanks to the G-P Corporation for the very substantial contribution the company has made toward the enjoyment of our magnificent outdoor heritage by a great number of people. □

By Carlton Chappell

Wildlife Biologist Supervisor, Central Region

Lovett Williams

CONSERVATION SCENE

Surest Signs Of Spring

One of the surest signs of spring can be heard any warm evening at the edge of a pond or puddle-the surprisingly sweet trill of the toad. Not only is the toad a better singer than many birds, but its metamorphosis from an aquatic tadpole into an insect-eating terrestrial creature in just two months is one of the miracles of nature.

Toad life is dependent upon the spring vocalizing. According to a national wildlife magazine, there are more than 200 different kinds of true toads in the world and each one sings its own mating song. The male toad inflates its throat sac like a miniature ballon and forces air through the vocal chords to produce a trill that can be sustained for up to half a minute.

Female toads, most of which don't sing, can't resist the males' songs. Females lay thousands of jelly-coated eggs in long strips which the males then fertilize.

About four days later, tiny tadpoles emerge from the eggs and must then escape such enemies as fish, birds and snakes. Tadpoles are equipped with gills which extract oxygen from the water. About one inch in length with rounded heads and long, wiggling tails, they look more like fish than toads. They feed on water plants which they devour with file-like teeth.

Southern Toad Wallace Hughes

Gradually the tadpole leaves its strictly aquatic life behind for that of a land-dwelling toad. The first signs of this are two bumps which appear near the tail. They slowly grow into hind legs. Soon front legs appear. It now swims with its back legs as the tail shrinks. Scientists believe the tadpole actually absorbs its tail for nourishment. As the legs develop and the tail shrinks, the tadpole also loses its gills and develops lungs for breathing air.

When the young toad crawls out of the water, it will not return to the pond until it is three or four years old. Then, if male, it will take up the full-throated spring song. If female, it will be ready to hop to it. ☐

Endangered Species Arrests Report

More and more emphasis is being placed on enforcement of endangered and threatened species regulations according to arrest statistics from the Commission's Division of Law Enforcement.

During 1981, 235 arrests were made and 262 warnings given by wildlife officers for violations of laws protecting endangered and threatened wildlife and species of special concern.

Manatee enforcement accounts for a significant percentage of these arrests with 198 cases made and 247 warnings issued to persons violating manatee speed zone requirements. It is interesting to note that fines ranged from a low of $10 to a high of $179 for violating speed zones in manatee sanctuary areas.

Other endangered species cases included one made in Dade County involving the shooting of an immature bald eagle on a dove field. The eagle was knocked down but managed to fly away and the body was never recovered. The 80-year-old defendant, who was seen shooting the eagle and reported through the Wildlife Alert program, was fined $350 and ordered to attend the Commission's hunter education course.

Numerous investigations involving marine turtles were made, including arrests of individuals unlawfully killing nesting turtles and illegally selling their eggs. There were 29 violations concerning endangered and threatened turtles including the alligator snapping turtle, the Barbours map turtle and the gopher tortoise.

Other cases involved arrests for illegal possession of indigo snakes and certain threatened birds like the white-crowned pigeon. ☐

WILDFIRE Damage

Wildfires damaged more than 58,000 acres of state-owned land in last year's record wildfire season, with south Florida bearing the brunt of the losses, said the Florida Division of Forestry.

The state owns about 2.6 million acres of land, much of it acquired as environmentally endangered and operated for outdoor recreation and conservation purposes.

John Bethea, director of the division within the Department of Agriculture and Consumer Services, said the 58,774 acres included only lands owned by state government. Additional thousands of acres burned in south Florida were in the large holdings of the federal government.

"Damage varied greatly, according to the character and usage of the land that burned," said Bethea. "The wildfires were extremely damaging in some environments such as the preservations for natural strands of trees and other native growth. In grasslands, the loss was less. But in every case, the wildfires contributed to air pollution which environmentally sensitive parts of Florida can ill afford."

In addition to last year's fires, in January 1982, fires continued to break out on state-owned land. January fires on these lands included nearly 1,000 acres in the Jonathan Dickinson State Park, halfway between West Palm Beach and Stuart; about 1,000 acres in the J.W. Corbett Wildlife Management Area in Palm Beach County; and some 600 acres in the Cecil M. Webb Wildlife Management Area in Charlotte County. ☐

(L to R) Rainey, Bostick and Hires

Jim Farrior

Rainey Elected Chairman

Miami veterinarian C. Tom Rainey was elected chairman of the Game and Fresh Water Fish Commission at the January meeting in Tampa.

He succeeds Tampa businessman Tom Hires of Tampa. Dr. Rainey served as vice-chairman last year. Elected to serve as vice-chairman for 1982 was Winter Haven trucking executive William G. Bostick, Jr.

Dr. Rainey was appointed to a five-year term on the board February 1, 1980. He is a graduate of the University of Georgia and has been in Miami since establishing his veterinary practice there in 1965.

Bostick was appointed to the Commission last year by Governor Graham. He is vice-president of the Auburndale-based Commercial Carrier Corporation and also vice-president of Clay Hyder Trucking Lines, Inc. ☐

Wildlife Knowledge Lacking

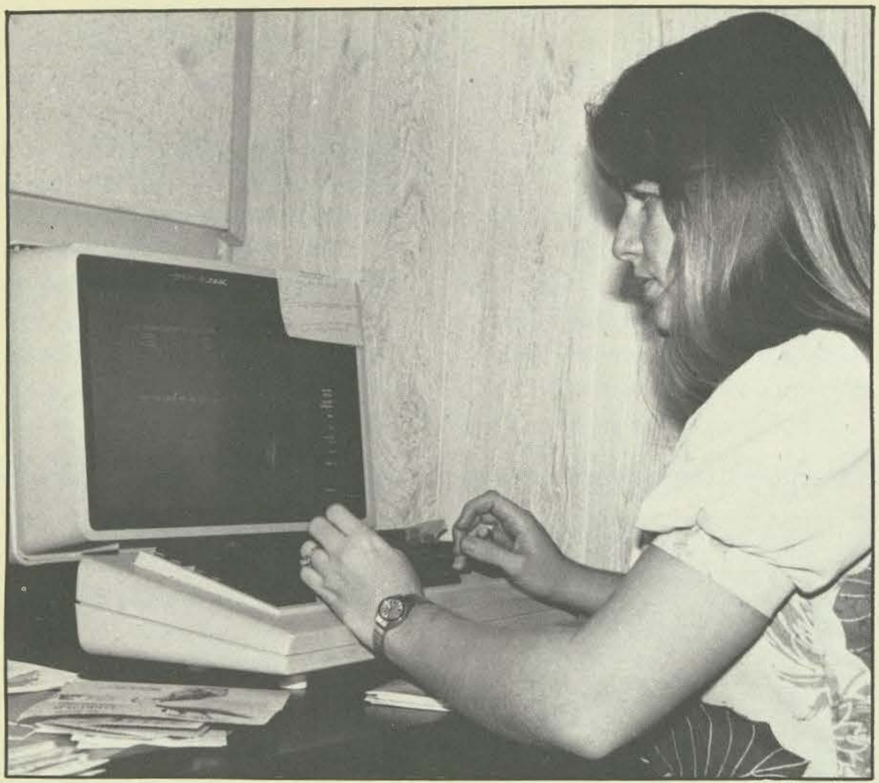
Americans who live in large cities are more concerned with humane treatment of wildlife than are rural residents, though city folks know less about animals, a Department of Interior survey says.

The survey, done by Stephen Kellert of Yale University in 1978, also shows that overall, Americans know little about animals or wildlife conservation issues.

"There appears to be a significant lack of understanding among large segments of our society about things that are of great importance to the future of wildlife conservation," Assistant Interior Secretary Ray Arnett said to the Associated Press.

"This finding is disturbing...because it indicates the public is not prepared to make informed decisions about complex wildlife problems," he added.

Kellert said in areas of more than one million in population, 29 percent of residents had a high knowledge of animals in general and 38 percent had a low knowledge. In areas with fewer than 2,000 people, the percentage was almost reversed—39 percent high and 29 percent low. ☐



William Greer

FW Goes Computer

At long last, *Florida Wildlife* magazine has completed its changeover to a new computerized subscription system. Circulation manager Pam Stephens is shown entering information on a new terminal. Already there are marked improvements over the old method, including subscriptions being added to the mailing list on the same day they are received in Tallahassee.

But, like anything new, there are still some difficulties that might arise. If you have any questions, want to make an address change or verify your subscription, address all such inquiries directly to Pam Stephens, Circulation Manager, *Florida Wildlife*, 620 South Meridian Street, Tallahassee, FL 32301. ☐

REPORT WILDLIFE LAW VIOLATORS...
WILDLIFE ALERT!
THEY ARE STEALING FROM YOU!

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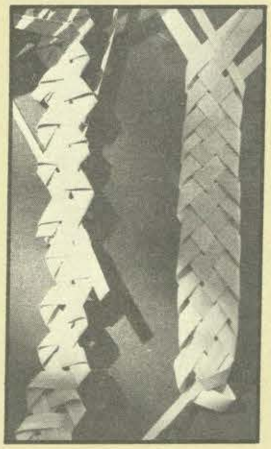

Photos by Mary Ellen Smith

(Clockwise) Hat source, the cabbage palmetto or sabal palm, Florida's state tree. Closeup of braid. Victoria Moeller wears a 60-year-old palmetto hat. Laura Hiott models one made recently.

Palmetto Hats

The braided palmetto hat, once commonplace, has now all but disappeared from the Florida scene. But early Florida settlers—those venturesome men and women who came by wagon and sail in the 1880s—developed the braiding of cabbage palmetto strips for hats into a fine craft. It is one that well might be revived.

Victoria Bolton Moeller of Malabar, still braids palmetto hats the way her mother did. She says, "You can't make a palmetto hat in a hurry. First, you have to find a cabbage palmetto. Cut off a new leaf, one just out of the bud. Hang it on a clothesline to bleach. This takes a week to 10 days."

When bleached to straw color, the fan is ready for stripping. Strip the fronds with a pin to ¼ inch width. Remove the ridge along the edge also with a pin.

Now the strips are ready for weaving, but they should be wrapped in a damp towel for flexibility. You can begin with two strips bent in the center to form four, then a fifth can be added. "The braiding goes better with an uneven number," Mrs. Moeller says. As the strips run out, or narrow, add more. Ends are trimmed off later.

It takes 13 yards of braid to make a hat.

Mrs. Moeller's mother, and other pioneer wives, stitched the braid into a hat form by hand, but it can be done on a sewing machine.

The palmetto hat costs nothing. (And removing a new frond or leaf does not injure the tree.) It can be as plain or as fancy as the owner desires. A blend of utility and beauty, it demonstrates the ability of pioneer women to "make do" with the materials at hand.—*Mary Ellen Smith* ■

LOUISIANA HERON

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Gregg Murray